

February 1986

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CURRENT NOTES

The Newsletter For ATARI Owners

WAACE

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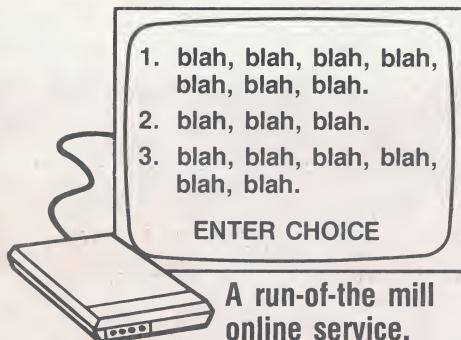
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THE WASHINGTON AREA ATARI COMPUTER ENTHUSIASTS



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An online service consists of a large, multiuser computer which your computer can access through the telephone lines. Since many people can access it at one time, you can interact and exchange information with other computer owners.

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In order to provide all these capabilities, we have implemented the entire system using full color graphics. GCP is set up as a City, with buildings for the Post Office, GCP offices, Games and other services. You, and the other customers, are figures which you move around in the City with your joystick.

You mean the City is shown on my TV screen?

Yes, indeed. Not only the City, but the inside of the buildings and the games are shown on your screen in full color graphics. Additionally, the other customers are shown on your screen as they move around the City and buildings.

Isn't it slow downloading the graphics?

No, because we do not download the graphics. All the pictures of the City, buildings and games are supplied on disk. When you go from one building to another, the graphics are accessed at disk drive speeds.

Do I need special software?

Yes, very special. But don't worry, we provide it with your signup.

Can I download public domain programs?

Yes, GCP has a public domain archive in its Post Office with about a Megabyte of Atari programs you can download.

What games do you have?

At the moment, we have BioWar, CyberTank and CyberShip. Lords of Space is under development and may be done by the time you read this. All the games are played online against other customers, so you are matching wits with humans from all over the country.

BioWar is a multi-player adaptation of Conway's game of Life. Each player has a cell colony which he tries to expand, often at the expense of the other players, while contending with the problems of under- and over-population.

CyberTank and CyberShip are tactical design and combat games set on the CyberWorld, an artificial battleground for cybernetic machines. You design your own tank or ship and battle it out with up to 15 other players on a scrolling map.

Do the games use graphics also?

Extensively. For example, in CyberTank, when you design your tank, the hull is shown on the screen, as are all the equipment

MODEM OWNERS: Tired of Text? Go for Graphics!



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choices, in full color graphics. You select and place the items by using your joystick.

In the combat phase, your screen shows the status of your tank, the 1 mile area around your tank (only a part of the larger battlefield), and any enemy tanks inside that area.

What equipment do I need?

GCP supports any member of the 8 bit Atari line with 48K of memory. You will also need a disk drive and a modem. We support all the available modems for the Atari.

How much does it cost?

The signup kit includes the software and documentation you need, plus 5 free hours at standard rates. This kit costs \$30. After the free hours are used up, the standard rates are \$6 per hour (weekday evenings after 6pm local time and all day Saturday and Sunday) for either 300 or 1200 baud access. Daytime hours during the week are \$15/hour.

Is it a long distance call?

Not from most U.S. cities. GCP is accessed through Tymnet, a national data service with over 500 locations in the U.S. The Tymnet charges are included in the standard rates, so you don't have to worry about add-on charges.

How do I sign up?

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3rd

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CURRENT NOTES

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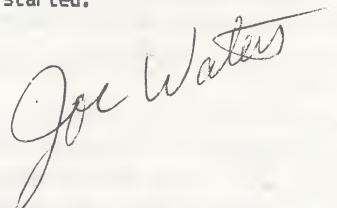
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 Woodbridge, VA 22192

EDITORIAL:

This is the first issue of Volume 6 and, as you have undoubtedly noticed, we have made some changes. Most notably the cover design is new for this year. Many thanks to Jack Holtzauer for arranging our new cover. We plan to rotate colors on the cover over a three month period (red, blue, and green) to help better distinguish one issue from the next.

It took me a very long time to get to the point where I had at least a rough draft printed for all the articles submitted this month. When I finally got there, I realized why it had taken so long. I had enough material to put out two issues of CURRENT NOTES! I'd like to print all the articles, and I will, but not in one issue. Throughout last year, the size of CURRENT NOTES has steadily grown; the December issues was 52 pages. I believe the consensus among the clubs was to keep costs constant for another year. I cannot do that if the size continues to grow. Thus, 48 pages will be the maximum (and also, most likely, the minimum) size for CURRENT NOTES. Thus, as we enter our sixth year, the cost of the newsletter to the clubs will remain essentially the same as it was in 1981 when we first started.



W.U.N. January Report
Joe Waters - Chairman,
World Users Network

October. As many of you know, in October ANTIC passed control of its World Users Network into the hands of the user group representatives. I was chosen to be temporary chairman and Frank Nagle, of the Bay Area Atari Users Group, was chosen as vice-chairman.

November. Since COMDEX was slated for November and several of the WUN representatives were going to be in Las Vegas, we thought we might forego the awkwardness of an online conference and simply meet in person. Those of you who have participated in online conferences will readily understand how much more can be accomplished by face-to-face communications.

The Las Vegas meeting was attended by Dave Duberman, the (now-ex) Atari User Group Coordinator, Frank Nagle, myself, and Jack Durre of the Dade Atari Users Group of Miami, Florida. The purpose of the meeting, besides getting to meet each other, was to begin the discussion as to just what WUN should be.

We did not arrive at any definitive decisions, but the consensus was that whatever WUN was going to evolve into, it's primary function should be to serve the inter-

ests of Atari User Groups around the country. Let me expand a moment on this theme.

At the "meeting" level, an Atari User Group is primarily a social institution. It's a place where people can get together, meet kindred souls, talk and learn about this machine they love so much, and, in general, just have a good time. There isn't much of a role for WUN here. Each individual user group will know what its constituent members want to do and will be able to act accordingly.

Besides the basic social function of holding meetings, there are other services a user group can provide for its members such as building a library of public domain programs, publishing a newsletter, or running a bulletin board system. These services, however, all entail a significant expenditure of money and often are beyond the reach of small clubs. Larger clubs, or small clubs that have banded together to enjoy the benefits that economies of scale bring, can and do provide such services. Nonetheless, here is an area where, perhaps, WUN could be of assistance to the clubs. It is very difficult to build a "quality" library and editors are constantly crying out for input. Perhaps WUN could serve as a central distribution point where high quality public domain software or "shareware" could be provided to clubs for distribution to their members as they see fit. Or maybe something could be done to help the struggling club editors around the country.

If this view of WUN, as an organization designed to serve the interest of member clubs, which, in turn, are working to serve the interest of their members, can be successfully implemented, then perhaps we can provide sufficient incentive for clubs throughout the country to WANT to join the organization. And, IF clubs do actively join and support the organization, then and only then will we be in a position to turn around and look in the other direction at Atari Corp. and other commercial interests involved in the Atari market.

With sufficient user support, we should be in a position to convey to Atari and other manufacturers the attitudes and desires of users and thus, perhaps, influence decisions. Note that our ultimate power over Atari and other manufacturers lies way back down at the roots of the organization. Users can decide to buy or not buy a product. In the last analysis, therefore, it is the marketplace that determines success or failure of any enterprise. It is ludicrous to imagine that we, as a "Board", can vote on something and expect any commercial interests to be bound by anything we say. The best we can hope for is to provide a clear and accurate representation of what Atari users want and thus, hopefully, prevent Atari or other developers from making a serious mistake.

All of the above just goes to provide a broad general outline of what we would like to see WUN evolve toward. How are we going to get there? In this industry, I can assure you, it won't be by any long-range plan. The industry is simply changing too much and too fast to waste any time worrying about WUN two or three years down the road. I have always felt that the best way to get from point A to point B is simply to step forward and start

walking. With each step we will get closer to where we are going. By also keeping our eyes and ears open as we march along, hopefully, we will keep going in the direction you, the Atari users, want us to go.

December. With Christmas complicating everyone's normally hectic schedules, no meeting was slated for December.

January. As January rolled in, the holidays were now behind us and it was time, once more, to go to work. WUN Board meetings are scheduled for the second Thursday of each month (10:00 p.m. EST) as an online conference in the AtariSIG on CompuServe. Since CES was in progress on the second Thursday in January, the January meeting was delayed until the third Thursday. The user group participants included Frank Nagle (BAAUG), Jack Durre (DAUG), Rick Gierle (PACE), and myself (WAACE). Ron Luks and Dave Groves (AtariSIG SYSOPS) represented CompuServe, and someone (it was never quite clear who) represented ANTIC ONLINE. Normally, Neil Harris and Dave Duberman would be on hand representing Atari. However, Dave has found a new job and, we learned at the beginning of the meeting, that Neil was ill that day. In spite of his illness, Neil did join the conference later in the evening.

Three items were on the agenda: a WUN message base on CompuServe, selecting additional user group representatives, and establishing some "syndicated" columnists. Without providing a blow-by-blow description, let me summarize the results of our first real "user sponsored" conference:

WUN Message Base. CompuServe, as part of their support for WUN, has agreed to provide a WUN message base in the Atari SIG. As those of you who regularly use CompuServe know, the Atari SIG now has three major elements: the 8-bit forum, the 16-bit forum, and a developers forum. If you choose the developers forum, you will see six available message bases. Some of these are really meant for developers who are working on products and need technical assistance and, in fact, access is restricted to authorized developers only. However, the fifth message base has been allocated to the World Users Network. It is available to everyone not just board members. Feel free to visit, see what topics are under consideration for board action, and add your own comments and feedback. With this message base available, there will be ample opportunity to debate issues and procedures without having to restrict all actions to a once-monthly online conference.

Board Membership. There is room to provide positions for more user representatives on the WUN board of directors. But how do we decide who should be on the board? In setting up WUN, ANTIC had divided the country into 12 geographical regions. Do the regions accurately represent the national distribution of Atari users? Should we have a member from each region? I am not sure of the answers to the above two questions, but I do think that anyone who can speak for a sizeable chunk of Atari users (say, a 1,000 or more) deserves to be heard. If your club is not big enough by itself, why not get together with other clubs in your area so you can have a regional representa-

tive? Rather than sending out a mass mailing to all clubs in the country to determine who is interested, it is easier for us to ask interested clubs to contact us, via the WUN message base, and make your own case for being on the WUN board of directors.

The WUN-Line. There are literally hundreds of club newsletters published around the world. If there is one common thread I see in many of these newsletters, it is the difficulty editors sometimes have in filling up all those pages every month. ANTIC ONLINE has provided an invaluable service for many editors by offering timely and informative news reports that clubs can download and include in their newsletters. Anyone who has been able to observe the contents of newsletters from around the country can attest to the popularity of ANTIC ONLINE.

Why not provide newsletter editors with a much broader selection of material that could be available for reprinting in their local newsletters? If one is lucky enough to be able to follow the many fine Atari newsletters published each month, you will notice here and there some truly excellent reviews, tutorials, and commentary. Virtually all of these are available for reprinting. However, it is a major task for a harried editor to have to retype selections. If only they could be, somehow, provided in electronic form....

They can. In the Developers Forum of the Atari SIG on CompuServe, the download section corresponding to the WUN message base will be used to house the WUN-LINE. The WUN-LINE will contain minutes of WUN board meetings, my summary reports as chairman, press releases and official statements from Atari, and a wide selection of columns, articles, reviews, and tutorials from the Atari newsletters around the country. Anything posted in the WUN-LINE is available for reprinting in club newsletters. Editors: when you find an article that you think would be of wide interest to other editors, feel free to upload it to the WUN-LINE.

Atari Says.... There is one more element that was introduced at this meeting, although not quite finalized yet. Some of you may have noticed that very often you hear conflicting reports about what is or is not going on at Atari. Quotes may come from this or that Atari official and it is not unprecedented that these statements sometimes contradict each other. What does Atari Corp. have to say? We would like to use the monthly WUN board meeting to provide Atari with a forum where they can release "official" policy statements and be assured that the word will be spread quickly and efficiently around the country. Maybe next month, I'll have more to report on this item.

February: The next WUN Board of Directors meeting will be held on Thursday, February 13, at 10:00 p.m. EST. The conference is held on Channel 5 which is restricted to WUN board members. However, anyone who wants to may "listen in" by tuning into Channel 30 and, once there, typing "/MON 5". This will allow observers on Channel 30 to monitor the board meeting while still allowing them to make comments and observations to each other without interrupting proceedings.

 Letters to the Editor

Dear NOVATARI,

There is a bug in the 4.01 Beta Test version of Chameleon which prevents successful sending of files via Modem FTP using the R: device at speeds below 4800 baud. The following Basic program will patch Chameleon 4.01 Beta Test to work correctly.

Sincerely,
Jack Palevich

P.S. The XMODEM bug your members found is the only change between v.4.01 and v.4.03.

```

10 REM Chameleon 4.01 Beta Test bug fixer
11 REM (c) 1985 Jack Palevich
12 REM
13 REM Please pass this on to
14 REM all Chameleon v 4.01 owners
15 REM it makes the "MODEM Send"
16 REM FTP option work right.
17 REM
18 REM To Use: Make a copy of your
19 REM Chameleon 4.01 Beta Test disk, insert
20 REM the copy in drive 1, then
21 REM run this program.
25 DIM A$(2),H$(1)
30 SUM=0:TRAP 60
40 READ A$:GOSUB 200
50 SUM=SUM+A:GOTO 40
60 IF SUM>5341 THEN ? "Typo in DATA":END
70 RESTORE
75 LOCK=35:UNLOCK=36:XIO UNLOCK,#1,0,0,"D:AUTORUN.SYS"
80 OPEN #1,9,0,"D:AUTORUN.SYS"
90 TRAP 120
100 READ A$:GOSUB 200
110 PUT #1,A:GOTO 100
120 CLOSE #1
125 XIO LOCK,#1,0,0,"D:AUTORUN.SYS"
130 ? "Chameleon 4.01 Beta Test converted to 4.03 Beta
Test"
140 END
200 H$=A$(1,1):GOSUB 300
210 A=16*H$:H$=A$(2,2):GOSUB 300
220 A=A+H:RETURN
300 IF H$>"9" THEN 320
310 H=ASC(H$)-48:RETURN
320 H=ASC(H$)-55:RETURN
400 DATA DF,76,E2,76,4C,00,2F,EA
410 DATA 00,2F,1E,2F,A2,60,A9,0D
420 DATA 9D,42,03,20,56,E4
430 DATA AD,ED,02,D0,F1,A5,14
440 DATA 18,69,14,E5,14,D0,FC
450 DATA A2,60,A9,0C,4C,E3,76
460 DATA 93,3B,93,3B,13

```

Dear Joe,

I just today received the December issue of CURRENT NOTES. As usual, a very fine job! It's amazing to find the kind of dedication you put into your newsletter, especially since I'm sure it's more a labor of love than a purely economic vehicle. My congratulations.

I did want to respond to a couple of comments made by Mark Brown in his excellent review of the XM-301 modem.

- o The program isn't that large. The reason it takes so long to load is obvious -- first DOS.SYS, then (if you have a 130XE), RAMDISK.SYS, then the handler for the modem, then XE-Term. The program can be loaded from the DUP.SYS menu (or even from the D8: on a 130XE).
- o There are several reasons why the program is "nothing to brag about when compared to some...public domain programs." One, it appears that Mark is an experienced telecommunicator. Most people aren't. I wanted to give novices the power they needed without swamping them with technical terms and features which would only serve to confuse. (This is the reason why the "technical" menu option doesn't appear anywhere - it's up to the more experienced user to read the manual to discover its operation.) Second, a number of features were kept to a minimum (like the number of phone numbers) to keep the buffer size as large as possible. Lastly, XE-Term, while not the "best thing since sliced bread" is a free program. You can pick up the modem and XE-Term for \$35 in some places - more than the cost of some terminal programs by themselves. (By the way, I'm not making any money from the sale of the program, so there's no conflict of interest here.)
- o The XMODEM implementation in XE-Term is a refined version of an algorithm I've developed (painfully) over a long period of time. It is Christensen spec, but has extensions to cover CompuServe which as most of us know is a terminal program killer. Atari and I both tested the program out on an extensive range of bulletin boards. A couple of points: the XM-301 (like the 1030 modem) is not as tolerant of baud rate fluctuations as it could be. It doesn't like talking, for example, to MPP modems who aren't running at precisely 300 baud. Also, the program can't be all things to all people. The fact is that there are many poorly (and incorrectly) written BBS's across the country. I opted for better performance with CompuServe in deference to some AMIS/FoReM/BBCS boards.
- o Mark didn't mention that XE-Term has A-protocol support for CompuServe built in -- you can download any program in SIG*Atari's databases using XMODEM or A-protocol.
- o Most modem owners use a disk drive, so the daisy chaining "problem" really doesn't exist. Also, most people can make do with a single phone jack. If Atari had had to include both an SIO extender and another phone jack, the modem would have been much larger, probably required an external power supply, and would have been much more expensive. (Not to mention, much harder to pass FCC inspection, also.) Even the lofty Hayes Smartmodem has but one RS-232 and one phone jack. You gets what you pays for.

o Auto-answer does work. I think there may be a conflict of terminology here. XE-Term does not answer the phone immediately upon execution of the "auto-answer" function. Instead, it goes into a polling loop waiting for the phone to ring, at which point it answers and allows you to proceed. You have to be sure that you have the proper type of phone cabling (!) in order for the ring line to be detected properly. (There are several types of jacks and/or cables.) The primary reason it was done this way was to assure that the novice user didn't try to "answer" the phone when it was already "off-hook". And as far as using the XM-301 for BBSes, it is perfectly suited to such a task. Indeed, there have already been a number of BBSes open up already using the "lowly" XM-301 as their modem. It works fine.

While I was working on XE-Term (I was working with a prototype at the time) I was constantly amazed at the performance of this little device, especially given all of the problems I'd had with the 1030 modem. I don't agree that anyone needs to wait. It's a fine value for the money (like I mentioned, only \$35 in some places) and it works.

I enjoy receiving your newsletter every month. Keep up the great work.

Yours truly, Russ Wetmore,
President, Star Systems Software

didn't work on my first modem (no mix up of terms), I exchanged it. I got one that worked perfectly for about two weeks but then started answering the telephone without being told to. I exchanged that one. The third modem has been working beautifully.

The XM301 is an excellent modem, especially considering the price. The difficulties I encountered may very well have reflected the problems that almost every new product has.

- Mark Brown

=====

Dear Joe,

In the December '85 issue of CURRENT NOTES, Jack Holtzhauer refers to three of XLent Software's programmers as "young fellows". Please tell Jack I say "THANK YOU!" Just a few days before the December CURRENT NOTES arrived at my door my sadistic dentist informed me that I had reached the "CAP AND CROWN" stage of life. To set the record straight, let me say that Dennis and I both began our recent incarnation almost 37 years ago. As to Jack's interest in one Jennifer Brabson, I once spoke over the phone to a young woman who claimed to be Jennifer Brabson. So I can verify that someone exists who claims to be J.B.

Len Dorfman, Miller Place, NY

[When Jack referred to you as "young fellows", Len, I am not so sure that wasn't a reflection on his age rather than yours! Ed.]

"SCREENS"

by Joe Krobel (c) 1986

Now your 8-bit ATARI™ can have real windows, and it's easy when you use

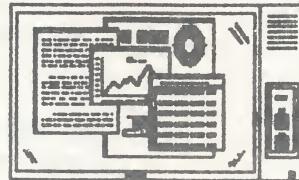
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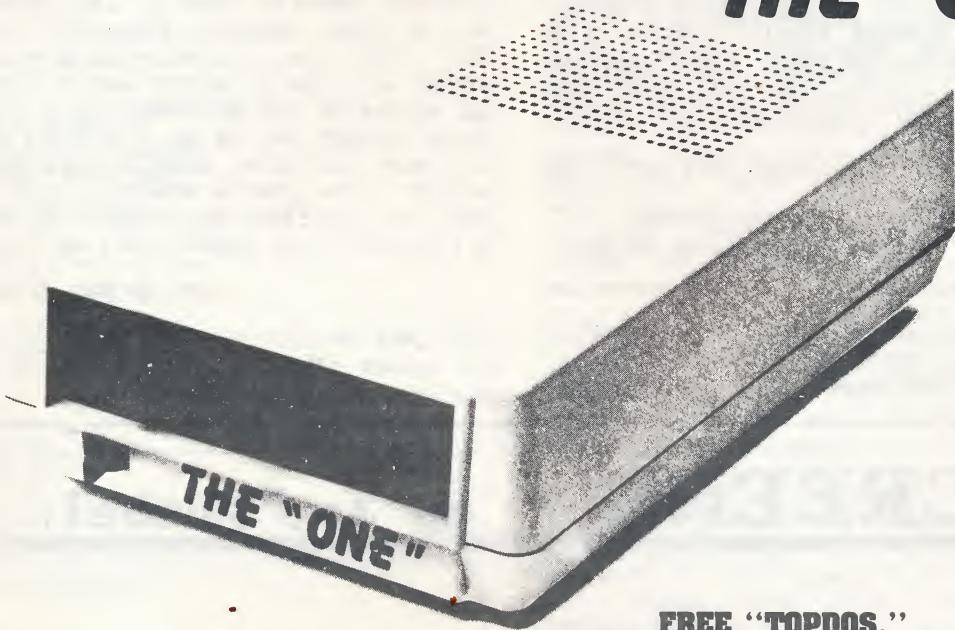
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ATARI SCUTTLEBITS

Bob Kelly - CPM

In 1985 consumers witnessed the introduction of the next generation of computer technology to the mass market -- the Motorola 68000 chip. The new machines powered by this chip will shape the nature of the competition in the home/small business (H/SB) computer market for years to come. For Atari, Commodore, and Apple, a sense of urgency has intruded upon life as declining demand drives their corporate instinct for survival. For most people computers are not a necessity -- food is. Furthermore, "computers all look alike" to the average consumer. Of course, to hackers or experienced computer users, the preceding statements border on heresy.

Added to the decreasing computer demand in H/SB market is the dilemma confronting software developers. Many software firms have already, or are on the verge of, abandoning the 8-bit market. They want to join the next (Pepsi) generation where the growth rate in software is expected to go one way -- up.

Ah! A simple question. Do most 8-bit owners want to run out and abandon their machine for 16-bit utopia?

No one seems to have addressed this question. Often, good market intelligence is non-existent for many small software firms. They live on instinct. Caution: instinct may result in a terminal situation for some firms if they abandon the 8-bit market prematurely. A full discussion of the software market will have to wait till next month. This month's column will examine the 1986 prognosis for the H/SB computer hardware market.

There is an old saying "statistics don't lie - liars use statistics." After completing the research for this article, I believe. The computer has, without doubt, contributed significantly to the information age. Fortunately, the computer industry is not responsible for the accuracy of the information disseminated. Computer firms, in reporting financial information, have followed standard procedure. The result is a constant barrage from the firms, as well as the press, of conflicting or misleading data. With this in mind, the following is my attempt to present as clear as possible view of market trends for 1986.

Atari announced it sold approximately 100,000 STs by the end of December -- 50,000 within the United States. To my mind, Atari has minimal incentive to distort these sales figures. Why? First, it is not a publicly held company; and thus, need not influence its stock price. Second, Atari's supposed deal with AT&T to deliver low-end Unix Computers, plus a host of other recently confirmed joint ventures, indicates Atari is financially viable. In other words, I do not believe AT&T or any other major firm would knowingly enter into a business relationship with an unstable company.

Still not fully convinced? I conducted a mini-survey of two local computer stores (not large discount houses) within the Washington D.C. area. During the November and

December period, these two stores sold roughly 400 STs and, oddly enough, about 350 130XEs. Both stores stated they could not get enough STs to meet Christmas demand. In addition, software is increasingly available for the ST, with one local store having in stock about 100 programs in mid-January.

A few other analysts do not share my outlook for Atari. For example, a January 10th article in the Wall Street Journal had this to say:

'They're [Atari] bumping along but we really don't see them steaming,' said IMS's Mr. Rehling. At Dataquest, Mr. Fradin suggested that Atari's recent decision to start selling the ST in big department stores is a sign that it wasn't selling very well in computer stores.

Atari has also reported that sales of the 130XE have been good. What this means one can only guess as no figures have been released. Why doesn't Atari release more general sales data? There is little to gain from secrecy, witness what happened via the rumor mill to the preceeding Atari organization. As can be seen from my small survey, almost 50% of the new machines sold were 8-bit computers. I wonder if the software firms are listening.

Commodore has reported increased sales of the 64 and its new 128 computer. This sales performance for the 8-bit line is consistent with the preliminary assessment presented some months ago in CURRENT NOTES. My forecast for sales of the Amiga made at the same time was not so upbeat. The Wall Street Journal reported in January:

...sales of the new Amiga, viewed as crucial to the company's future, have been at the low end of the company expectations. Because of a lack of software, the Amiga's highly praised sound and graphics capabilities haven't sold well in the business market, which can best afford the machine's \$1,500 to \$2,000 price tag.

While Commodore publicly states the outlook for 1986 is bright, it is important to understand where they are coming from. Commodore, in 1985, was plagued by financial problems, e.g. loans in technical default since last summer plus a cumulative corporate loss over the last three quarters of 1985 amounting to \$184 million. The price of Commodore stock remains depressed at roughly \$9.50 per share, down from \$46.00 in 1984 and from the brief rise to \$12.00 per share after Amiga was introduced in October of 1985. Commodore failed to purchase a booth at the recent Consumer Electronics show. This is viewed as another example of heightened cost consciousness by Commodore as was the recent closing of two more plants.

While Commodore experienced financial difficulties in 1985, it will survive 1986, but in a smaller form. How small is the issue. Critical to any answer is the ultimate sales potential of the Amiga. To-date, sales have been disappointing from Commodore's perspective (shipped roughly 35,000 Amigas to dealers in 1985). Furthermore, no general forecast of Amiga's eventual market acceptance/share, in turn Commodore's profitability, can be

made until an adequate supply of software is available for the machine. On the other hand, if software does not become available soon, it may be too late in terms of wide public acceptance.

Apple Computer's profits rose in the first quarter of this fiscal year (includes Christmas 1985) from \$46 million a year earlier to \$57 million. The improvement was a result of cost-cutting measures taken during the year rather than the result of increased sales. Total sales actually fell by 20% from \$698 million to \$534 million.

The Macintosh Plus has been announced. It comes with one (1) megabyte of RAM, redesigned keyboard, and a new floppy disk drive capable of 800K of storage. The Macintosh Plus will sell for about \$2,600 retail with the 512K Macintosh declining in price to the neighborhood of \$2,000.

While Apple continues to create an illusion that it is a major force in the corporate market, reality indicates the opposite. The IBM-PC series of personal computers sell at a rate of roughly 150,000 units per month. The Macintosh, with sales of 20,000/month, remains an also-ran. Sales to the corporate market at best will stabilize in 1986. The critical period for the Macintosh in terms of its future with Corporate America will be late 1986 or 1987.

The real star for Apple remains the 8-bit Apple IIe and IIc which sells at the rate of roughly 60,000 units per month -- largely to the home and educational markets. Rumors continue to circulate that Apple will introduce the 16-bit 65816 chip for its IIe and IIc computer lines. This chip is generally compatible with much of Apple's 6502 software. The chip bank switches memory in 64K blocks up to a maximum of 16 megabytes (see: *Compute!*, February, for more technical detail). The introduction of this chip into the IIe and IIc could prove to be an extremely smart decision by Apple to maintain its lead in the educational market. Why? All one has to do is consider the on-shelf investment many educational institutions have in Apple software. Further, this probably would reduce Apple owners switching to the Atari ST.

Another view, similar to my own, is that of Jerry Pournelle who wrote in *InfoWorld*:

The most significant event of the year was the introduction of the Amiga and Atari ST computers - machines that are what the Macintosh should have been.

In summary, I must say that frankly, Jack Tramiel and Atari are the only ones generating any interest in the home computer market. From this perspective, Atari's future is decidedly upbeat (profitable) especially when you consider it is also the low-cost producer. In the past, I was not bullish on Atari.

What does this mean for Apple? To me, 1986 spells lean times for the Macintosh. Again, you ask why? Simply, no clearly defined target market for the machine. Corporate users feel they can't rely on Apple for service

and the machine is over-priced for most home computer users. Further, Macintosh sales to the home market are in jeopardy as the Atari ST and Amiga go after market share. Needless to say, if IBM introduces the PC II later this year, as rumored, Macintosh sales to the business market will nose dive. Apple will hang on to the majority of its users in the 8-bit home and educational markets. They will be hard to dislodge from the educational market in particular as no other firm has a strategy to do so. Overall, Apple sales will decline in 1986. Yet, the firm will remain profitable due to the Apple II series. The price of Apple stock, which has increased by 60% in the last few months, will level out.

Amiga will remain a disappointment for Commodore as it fails to attain what probably were unrealistically high sales expectations in the first place. The 8-bit line will continue to sell as it will for Atari. However, it will be another lean year financially for Commodore.

Clearly, the big winner in 1986 will be Atari (percent growth in sales). I have not even considered making such a statement since 1983. However, Atari may yet be able to snatch defeat from the jaws of victory. If Tramiel alienates his existing ST distributor base by going to mass market outlets before compensating them with better and more versatile STs, overall Atari growth will suffer.

Next month, the software industry odyssey and time for reader input.

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BATTLE BYTES

M. Evan Brooks and Dean Miller - NOVATARI

PANZER GRENADIER

PANZER GRENADIER, designed by Roger Damon (of OPERATION WHIRLWIND and FIELD OF FIRE fame) is a one-player battalion simulation based upon the World War II Eastern Front. You are a mechanized infantry regimental commander in "Grossdeutschland" Panzer Division. This division, commanded at one time by later Field Marshal Hasso van Manteufel, was one of the Wehrmacht's elite units. Battling the Soviet computer, you face five scenarios occurring between late 1942 and 1945.

In each scenario, the situation is bleak. Your troops are on the defensive or at best, on a limited offensive. It might have been interesting to see an earlier scenario, where the Germans were on a true offensive.

The scenarios may be played at three levels: beginner, intermediate and advanced. Selection may be made for regular or fast resolution of combat; this reviewer recommends regular, so that the player may see the results of his actions and be able to absorb the tactical import thereof. Input is via joystick, always a nice touch with the Atari.

Although each turn is composed of nine phases, the documentation and play leave little question as to implementation. During Observation, you may scroll the battlefield, and also have selected units "dig in". Fire Phase allows each selected unit to fire at a designated target (each unit is composed of sub-units which determine the "rate/duration" of fire). Any unit that fires will naturally have a reduced movement capability. The computer will determine whether or not line-of-sight and range factors affect firing ability; indirect fire weapons (self-propelled artillery and mortars) are exempt from line-of-sight considerations.

During Movement, all units not heretofore "dug in" may move. By joystick input, non-wheeled/tracked units may mount. This radically increases movement ability, but negates their ability to fire and increases their vulnerability to enemy fires. Following Movement, the Soviets fire at you. Units damaged may lose sub-units, and become disrupted (or destroyed). This prevents them from firing in the following phases until they recover sufficient cohesion to function.

Each sub-unit a unit possesses fires one "shot". The player may determine the strength of the enemy by counting the number of shots. If necessary, one may close assault the enemy -- always a risky endeavor, it's all or nothing. Use only when the assault is critical! At the end of the turn, one may save the game to disk (sorry, only one game per disk).

The novice/intermediate player will find PANZER GRENADIER to be an enjoyable simulation. Mortars are han-

dled better than in COMBAT LEADER, in that they are ineffective against armor (usually, the maximum damage they could do to "buttoned-up" tanks would be to throw a track, and that, rarely). The simulation also includes mines and bridges (which may be destroyed and rebuilt by pioneer [engineer] units). Play balance is accurate in that novice games are relatively easy to win, while advanced games are quite difficult.

The documentation offers tactical assistance, which one would be well-advised to heed. However, notice that this review declared PANZER GRENADIER to be enjoyable for the novice/intermediate. What of the advanced player? In all veracity, the simulation does have a visible fault. PANZER GRENADIER encourages reconnaissance by fire -- to an unrealistic degree. If one's troops will pass near covering terrain or a village, it is best to suppress the enemy without determining if the enemy is even there. While this technique may be quite effective at times, it does have the weakness in that it definitely reveals your position to the enemy. What ever happened to reconnaissance patrols? The only other criticism concerns opportunity fire. Unlike Mr. Damon's prior designs wherein enemy units utilized opportunity fire at every chance, there is little opportunity fire herein. One may drive an army past a position and not have it open fire. What determines opportunity fire by the Soviets? Only designer and the computer know -- and they are not telling.

Overall, a solid novice/intermediate game. There is nothing spectacular as to envision a break-through in wargame design; on the other hand, it is entertaining.

SILENT SERVICE

SILENT SERVICE is Microprose's paean to submarine warfare during World War II. You are the skipper of an American fleet submarine in the Pacific; can you destroy the Japanese merchant fleet? Bring Toyota to its knees? Make Lee Iacocca happy?

Actually, SILENT SERVICE is one of the most impressive simulations to be released during the past year. The graphics are superb, the documentation relatively complete (although a bibliography and recommended readings would have been nice), and the balance between entertainment and historicity are extremely well done. There are various degrees of difficulty, and a seven year old can play the novice level, while his father can have a difficult time at the captain level. This differentiation of reality levels with the high degree of historical accuracy make this game a real player. Highest recommendation!

This reviewer would like to thank John Marable for his insights into historicity. His experience as a dolphin wearer was a great assistance in composing this review.

There are three basic scenarios: (a) torpedo/gunnery practice; (b) convoy action (a single engagement); (c) war patrols (a forty-day mission). Skill levels range from midshipman to captain (commander is historical), and seven reality levels determine the true expert (limited visibility/zig-zagging convoy/dud torpedoes/no repairs at

sea/expert destroyers/difficult to find convoys/angle-on-bow input). Most of these are self-explanatory; however, angle-on-bow (AOB) does require some explanation.

In effect, AOB is the angle between the torpedo head and the target ship. Determining the AOb with an angry destroyer rushing in one's direction is enough to deter all but the bravest. It is difficult to compute, but as Mr. Marable points out, reality was even worse given the impact of the target's bearing. Usually, one would have had to take two observations and almost triangulate the shot. The documentation points out that there is no necessity to "lead" an enemy target. This reviewer is not so sure; after firing several spreads of torpedoes at an enemy ship, sometimes the only way to hit it is to lead it. But this only occurs at the more difficult levels.

Graphics are superb. One can switch between instrumentation, bridge, maps and below decks with the push of a (joy) button. This will require an intermediate stop in the conning tower; therefore, the alternate method of quick transfer is via Shift-Key and numbers. While a separate reference card would have been nice, one quickly learns the necessary commands and is able to access all necessary data quickly.

Is the action too slow? Are you waiting forever before engaging in combat? Then, simply go to the map (which goes from strategic to operational to tactical) and speed up the action as much as four times. Once contact is made, the speed will automatically decrease. Note: during war patrols, the documentation is somewhat vague. Do not use the tactical maps; use the special strategic map.

Torpedo firing is relatively easy, although zig-zagging targets are naturally hard to hit. Angles of perception are require some experience for accustomization, since the torpedo may cross one's entire line of vision before hitting the target. Even more difficult (but just as accurate) are the later scenarios wherein electric torpedoes are utilized. Shorter range, but no "bubble" trail, as with the steam torpedoes. The documentation specifically warns against watching the torpedo wake, and this reviewer cannot recommend it as a healthful pastime, but it is difficult to restrain oneself from observing the torpedo wending its way to a heavy tanker.

Generally, destroyers are sunk by a single torpedo hit. Other target ships (cargo, troop and tanker) may require multiple hits. Again, historically accurate. If at all possible, concentrate on the higher tonnage shipping (troop and tankers). An unrealistic (but welcome) touch is the immediate identification of an enemy ship by type.

On top of torpedo firing by both bow and stern tubes, one can surface and sink a target by deck gunnery. If the gun hits, the entire background will portray an explosion. Deflection shooting can be quite difficult, and the best hint that this reviewer can offer is to match speed and bearing with the target as to minimize deflection shots.

There are two other submarine simulations on the market. The oldest version, SUBMARINE COMMANDER (Thorne/EMI)

was fun when it came out 5-6 years ago. Clearly outdated, it stands as an arcade game -- fun to play occasionally, but really hamburger to Microprose's filet mignon. GATO is the IBM answer to frustrated submariners; we have all heard about GATO. Is it that much better? Actually, GATO is not in the same class as SILENT SERVICE. Torpedo tubes are forward only, the map is overly artificial, the deck gun does not exist, and steering can be done only in 90 degree increments (unlike SILENT SERVICE's 360-degree steering access). In examining GATO, the only additional realism factor it possesses is that one must switch between diesel and electric drives. A simple flick of the switch. For this, one would need six times the power of the Atari 800 and 30 times the price.

Does the simulation have any faults? The only one noticed thus far concerns the lack of save feature (it would have been nice to be able to save a war patrol for later completion). Also, tonnage on war patrols may exceed 100,000 tons for the veteran; such results are better than many total war records of fleet submarines. However, this is not really a fault; historical play would have required hours/days of play without sighting an enemy.

CONCLUSION: SILENT SERVICE joins the select few of "must-have" wargames. Is it an arcade game or a wargame? Playing like the former, it has more historical accuracy than most wargames. Who said historicity had to be boring? Five stars!!! (*****)

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Tips 'N' Traps**Jim Stevenson & Barry Burke -
NOVATARI**

Hello, again, one and all. As you can see, our supply of questions and answers has increased quite a bit because of the CURRENT NOTES January month skip. This is kind of nice, because it gives us a chance to get more of what adventurers want this column for -- MORE MESSAGES. Once again, I would like to remind all of you with modems to call either ARMUDIC (703) 569-8305 or Joe's Attic (703) 471-1809 to enter in your questions and/or answers. If you do not have a modem, don't hesitate to call us: Jim Stevenson (703) 378-4093 or Barry Burke (703) 830-1978.

Kennedy Approach

Q. On the Dallas/Fort Worth screen, is Dallas an airport or not? If so, where are the landing zone things? Thanks for any help. <Christopher Cosen>

Hitchhiker's Guide to the Galaxy

Q. Please help me in getting all the Fluffs! I need to get the Fluff that is in the Beeblebrox Scene. I get out of the ceremony alive and return to dark, but there is no seat Fluff to be found! Please, I am loosing my mind! <"Shalmaneser">

A. This is a long time ago...this might be wrong, but then again...

Clue: What items do you have with you on the planet? After going through the scenario, check downstairs on the ship. In the escape hatch well, you will get the tool box; get the seat fluff and stick it in the tool box during the scene. <Beowulf Shaeffer>

Q/A. Figured out an error I made early on in the game. I hooked the drive up too early and shorted the bridge. I went back (one save was just before I made my mistake, luckily) and corrected it. Now if only I could figure out how to find out what tool Marvin will want to open the hatch before he asks for it. <Phillip Nelson>

A. You can't. Read the guide entry about the Fluff. The solution to this puzzle will have to grow on you. <Paul Mattia>

Hacker

Q. I am about to go crazy. Where is the test site? I can't get past level 4 security checks! And how do you move the light so you can get to the shaded areas of the world? Is there any way to get more money? ANY help would be nice. <Dean Edward Miller>

A. The 4th level password is the same as the logon password in the beginning: AUSTRALIA. And in the darkened places, just type "I" for infrared scanner, and you'll be able to see everything in the darkest places.

I don't know about the money, though. Good luck in the rest of Hacker. <Jim Stevenson>

Ghostbusters!

- Q. How do I get past the marshmallow man? <John Lowry>
A. You have to get 2 men between the marshmallow man's legs (no matter how kinky that may sound), then watch the fireworks! <Jim Stevenson>

Planetfall

- Q. I know Planetfall is an old game, but does anyone know how to get the Radiation Suit? <"Dr. Strange">
A. There isn't one. <John Randell>

Championship Lode Runner

- Q. Has anybody gotten past the second screen on Championship Lode Runner? It is incredibly hard. Does you know any secrets or anything? <Steve Francesee>
A. On level 2, you must get top right pellet then come down to right note and lead the man on the ladder until he is past the bottom right note. Drop down and go to right ladder. If you notice the men will change direction depending where you are! I've gotten to level 5 but the bizarre starts then. <"Playboy Leo">

Wishbringer

- Q. Can anyone help me on Wishbringer? Here's my problem: How do you get the glasses from in the movie theater, and how do you get passed the hell-hound? (If at all) I would appreciate any help. <Marina Cheney>
Q. How do you wish for something? <Jim Stevenson>

- A. Wishing is very simple. You must be holding the stone and a particular object for each wish, for example, the umbrella (open) to WISH FOR RAIN. Chapter the fifth in the game package gives a complete list of the wishes and what you need to use them. Personally, I found the game to be very simple to solve without using them. It was actually more challenging to go back afterwards and try to figure out where some of the wishes were beneficial. <Paul Mattia>

Zork I

- Q. OK Barry, you should be able to answer this one. In Zork I, how do you get the thief's best bag (I already have tried entering the command "steal") and how do you get past the grating? <The MADD HACKER>

Ultima III

- Q. In Ultima III, which dungeons have which marks on which level of the dungeon? <The MADD HACKER>

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The prices on this list are current as of this date, but are subject to change without notice.

This was printed with a Citizen MSP-10 in Near Letter Quality.

LEARNING THROUGH LOGO

Susan Wolff - NOVATARI

When the winter recess came upon my classroom, the children were working on their "Choose Your Own Ending" adventure stories. At this point they have created flow charts for their stories, decided on their plots, and worked on their text.

Over the next few weeks I will be teaching these fifth grade students all about multiple turtles and Atari Logo animation. They will then use these graphics techniques to add illustrations to their stories.

Language arts skills such as main ideas of paragraphs, complete sentences, spelling rules, etc. are lessons that all teachers try to teach children. Teaching these lessons in the context of using these skills to create on-line stories such as the one that follows has been very successful. The children are motivated and excited to apply their skills.

The emphasis in these particular stories has been to make sure all the paragraphs have one main idea. This particular group of students did a good job. Next month I should be able to show how the children animated their stories.

TO STORE1

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TO D

TS CT

SETCURSOR [2 4]

PR [YOU TRY AS MANY TIMES AS YOU CAN TO CRAWL OUT OF THE QUICKSAND. EACH TIME YOU TRY YOUR HEAD GOES DEEPER AND DEEPER. FINALLY YOUR HEAD GOES DOWN INTO THE QUICKSAND, AND THAT'S THE END OF YOU.]

SETCURSOR [14 10]

PR [THE END]

SETBG 70

END

TO C

TS CT

SETCURSOR [2 4]

SETBG 0

PR [YOU GRAB THE BRANCH IN TIME. YOU PULL YOURSELF OUT OF THE QUICKSAND. "WHEW THAT WAS CLOSE," YOU SAY TO YOURSELF.]

PR []

PR [SE *** [THAT'S WHEN YOU REALIZE THAT THERE IS A MIRROR JUST LIKE YOURS RIGHT IN FRONT OF YOU. YOU WALK TOWARD IT. ZAP! A RAY HITS YOU. THE MIRROR PULLS YOU IN,

AND YOU GO FLYING BACK IN TIME. WHEN YOU STOP YOU ARE BACK IN YOUR OWN TIME.])

SETBG [14 20]

SETBG 44

PR [THE END]

END

TO SQUARE :SIZE

REPEAT 4 [FD :SIZE RT 90]

SETBG 11 WAIT 5

SETBG 22 WAIT 10

SETBG 33 WAIT 5

SETBG 44 WAIT 10

SETBG 55 WAIT 5

SETBG 66 WAIT 10

SETBG 77 WAIT 5

SETBG 88 WAIT 10

SETBG 99 WAIT 5

SETBG 111 WAIT 10

SETBG 44 WAIT 5

SETBG 0 WAIT 20

END

TO DES

FS HT PU SETPOS [-30 0] PD

REPEAT 2 [SQUARE 40 CS SQUARE 80 CS] SETBG 44 WAIT 5

SETBG 55 WAIT 10

SETBG 66 WAIT 5

SETBG 77 WAIT 10

SETBG 88 WAIT 5

SETBG 99 WAIT 10

SETBG 111 WAIT 5

SETBG 22 WAIT 10

SETBG 33 WAIT 5

SETBG 111 WAIT 10

SETBG 44 WAIT 5

SETBG 0

END

TO TITLE.CREDIT

TS CT

SETCURSOR [6 7]

PR [ADVENTURE AHEAD IN TIME]

SETCURSOR [4 9]

PR [BY ALEXA, PATRICK AND ROBBIE]

WAIT 200

END

TO STORE

TS CT

SETCURSOR [2 6]

PR [ONE DAY YOU GO TO AN ANTIQUE STORE. YOU SEE A MIRROR THAT YOU WANT TO BUY. AT THE CHECKOUT COUNTER THEY TELL YOU THAT THE MIRROR HAS SPECIAL POWERS.]

PR []

PR [PRESS RETURN TO CONTINUE.]

PR RL

END

TO E

TS CT

SETBG 0

SETCURSOR [2 4]

PR [YOU IGNORE THE CREATURE AND STEP THROUGH THE MIRROR.
ZAP! YOU GO FLYING AHEAD IN TIME TO THE YEAR 3999! WHEN
YOU STOP GOING AHEAD IN TIME. YOU ARE SURROUNDED BY
GUARDS! YOU TELL THEM YOUR STORY BUT THEY DON'T BELIEVE
YOU, AND THEY SAY THEY WILL KILL YOU.]

SETBG 70

SETCURSOR [10 14]

PR [RETURN]

END

TO MIRROR

DES

SETBG 0

TITLE,CREDIT

STORE

STORE1

STORE2

END

TO F

TS CT

SETCURSOR [2 4]

PR [YOU LISTEN TO THE CREATURE AND SIT DOWN. A LITTLE
LATER YOU SAY YOU HAVE TO GO. THE CREATURE FOLLOWS YOU.
ONCE YOU GET OUTSIDE, HE DISAPPEARS. YOU JUST GO AHEAD AND
FORGET ABOUT THE CREATURE.]

PR []

PR (SE " " [SUDDENLY RIGHT BEFORE YOUR EYES IS A MIRROR
JUST LIKE YOURS. YOU WALK TOWARD IT. WHEN YOU ARE ALMOST
THERE - ZAP! YOU GO FLYING BACK IN TIME. WHEN YOU STOP YOU
ARE BACK IN YOUR OWN TIME!]) SETBG 44

SETCURSOR [14 20]

PR [RETURN]

END

TO B

TS CT

SETCURSOR [2 3]

PR [YOU FOLLOW THE CREATURE FOR A LONG TIME. HE LEADS YOU
TO A HUT. YOU GO INSIDE THE HUT AND THERE IS A MIRROR JUST
LIKE YOURS. YOU START TO WALK TOWARD IT BUT THE CREATURE
STOPS YOU. THE CREATURE SAYS, "DON'T GO NEAR MY MIRROR."]

PR []

PR (SE " " [IF YOU DECIDE TO WALK TOWARD THE MIRROR AND
IGNORE THE CREATURE TYPE E. IF YOU DECIDE TO LISTEN TO THE
CREATURE TYPE F.])

MAKE "CHOICE FIRST RL

PR []

IF :CHOICE = "E [E] [F]

WAIT 200

END

TO A

TS CT

SETCURSOR [2 4]

PR [NOT TRUSTING THE CREATURE, YOU WALK AWAY FROM IT.
ABOUT AN HOUR LATER YOU WALK RIGHT INTO QUICKSAND! YOU SEE
A BRANCH. YOU THINK YOU COULD TRY TO GRAB IT.]

PR []

PR [IF YOU TRY FOR THE BRANCH TYPE C. IF YOU TRY TO CRAWL
OUT TYPE -.]

PR []

MAKE "CHOICE FIRST RL

IF :CHOICE = "C [C] [D]

END

TO STORE2

CT SETCURSOR [2 6]

PR [YOU ARE IN THE MIDDLE OF A FOREST. IT'S THE MIDDLE OF
THE DAY. YOU WALK FOR ABOUT AN HOUR UNTIL YOU REACH A
STREAM. YOU SIT DOWN TO GET A DRINK OF WATER AND SUDDENLY
A CREATURE COMES TOWARD YOU. THE CREATURE SAYS, "I WILL
LEAD YOU TO SAFETY.]

PR []

PR [IF YOU DON'T TRUST THE CREATURE TYPE A. IF YOU DO
TRUST THE CREATURE TYPE B.]

PR []

MAKE "CHOICE FIRST RL

PR []

IF :CHOICE = "A [A] [B]

WAIT 200

END

MAKE "STORE "ED

MAKE "CHOICE "F

**ATARI's New Personal Computer
Package: Quality and Power
Without the Price
(Atari Press Release)**

LAS VEGAS, January 9 -- Atari Corporation is introducing here its 130XE personal computer in a complete starter package for computing and word processing. The system has an expected retail price of \$399.

The 130XE package delivers powerful, multi-function computer capability in one box. The bundle contains the company's step-up 130XE computer (128K) with mouse, printer, disk drive and five software titles -- SILENT BUTLER(TM), STAR RAIDERS(TM), MUSIC PAINTER(TM), PAINT(TM), and ATARIWRITER(TM), a word processing program. Thousands of software programs are available for the company's XE line, with more in development by Atari and third parties.

Atari has also announced that its popular 655XE, introduced last year, will be available separately and as a package. The expected retail price of the 65XE package is between \$300 and \$350.

According to Atari president Sam Tramiel, "Atari's objective is to put everything a first-time computer owner needs in one box -- because high-performance computer systems ought to be affordable. The XE line surpasses the design and power of comparable Commodore machines for half the price to the consumer and more than twice the profit to the trade. Only Atari is in a position to do this."

Both the 65XE and the 130XE (available alone at \$149 expected retail), feature trim, ultra-modern styling, advanced construction and 62-key keyboard. Both models feature 6502C microprocessor architecture with custom graphics, sound chips and an integrated self-test program.

Atari's Small Miracles**Mark A. Brown - NOVATAR**

Welcome back to and Happy New Year from Atari's Small Miracles, the column dedicated to the preservation of the saying that good things come in small packages. Even the slowest of typists should have no trouble typing in these quick and dirty programs in Atari BASIC.

Oops! and programming tips department. Last month I made a little mistake in one of the programs. The program, CHEAPREN, works fine as it is; typing it in might have been a problem for you though. You see, BASIC initially lets you work in only thirty-eight columns so that if your television overscans (makes the picture bigger than the tube) more than most you won't lose any screen information. A BASIC line can consist of three physical lines on the screen, regardless of whether you're working in thirty-eight columns, forty, or two, meaning the maximum length of a BASIC line can be anywhere from three characters to 120. Now for the problem: CHEAPREN was written using forty columns and its first line was so crammed full of characters that when you try to program it in thirty-eight the computer won't accept it very easily. The solution? Either make the line shorter (its easiest if you just shorten the "?" statement) or you can type POKE 82,0 in direct mode to move the left margin over from two to zero and put you in forty columns. Either way, CHEAPREN will work. Sorry for the oversight.

This month's theme is based on something the Atari computer does very well; work with color. The five programs this month deal with the 256 colors our awe inspiring computer can generate. Those of you working with only black and white (green/white, amber/white, etc.) screens won't be able to appreciate these as much as you could with color, but they're still neat programs to watch.

COLOR256

This first program is very straightforward and simple. It displays all 256 colors on the screen at once. Using GTIA graphics mode 9, the program draws bars of all the possible brightnesses then calls a short machine language routine to change the colors. Nothing more, nothing less, spectacular in its simplicity.

```
10 C=0:DIM A$(25):FOR A=1 TO 25:READ B
 :C=C+A*B:A$(A,A)=CHR$(B):NEXT A:IF C<>
 47352 THEN ? "Data error":STOP
20 GRAPHICS 9:FOR A=0 TO 79:COLOR A/5:
 PLOT A,0:DRAWTO A,191:NEXT A:B=USR(ADR
 (A$)):END
30 DATA 104,173,11,212,24,105,36,10,10
 ,41,240,141,10,212,141,26,208,173,15,2
 10,201,255,240,233,96
```

UPNDOWN

UPNDOWN is another display of color, although only 128 of them. To compensate for the loss, UPNDOWN scrolls

the colors on the screen. Up and down the screen they go, as the title implies. A series of concentric boxes is drawn for the backdrop of the effect then once again a short machine language routine kicks in the actual colors. Note that the colors are not in any relation to its neighbor; normally in the Atari colors gradually fade from one to the other. UPNDOWN mixes up that order for the sake of variety.

Some technical notes: The machine language subroutine in UPNDOWN and COLOR256 both rely on VCOUNT at \$D40B to see where the raster is on the screen. COLOR256 multiplies the number by 2 (to make the bands of color thinner), adds 64 (to shift the colors to where nothing is forgotten off the top or bottom of the screen), logically ANDs the value with \$FO (to mask out the luminence bits and keep only color), then stores it into the color register at \$D01A. UPNDOWN is slightly simpler; it takes the value and adds or subtracts RTCLOK to get motion then exclusive ORs it with \$5F to mix up the colors.

```
10 C=0:DIM A$(33):FOR A=1 TO 33:READ B
 :C=C+A*B:A$(A,A)=CHR$(B):NEXT A:IF C<>
 77439 THEN ? "Data error!"
20 GRAPHICS 22:COLOR 1:FOR A=0 TO 48 S
 TEP 1.2:PLOT 32+A,A:DRAWTO 128-A,A:DRA
 WTO 128-A,95-A:DRAWTO 32+A,95-A
30 DRAWTO 32+A,A:NEXT A:A=USR(ADR(A$))
 :DATA 104,165,20,48,21,24,109,11,212,1
 0,73,95,141,10,212,141,22,208,173
 40 DATA 15,210,201,255,240,232,96,56,2
 37,11,212,24,144,232
```

GR8ART

Thank thirteen year old Eric M. Tucker of Bethesda, Maryland for this next little gem. He drew a design on an graphics 8 screen (Antic mode E) in such a way to create more than the one color it's only supposed to have. A moire pattern (pronounced either mwah-ray or ma-warr) takes advantage of a well documented feature; artifacting. In short, artifacting allows many colors in the high resolution mode by splitting the television phosphor (the red, green, and blue bars you see when you look at a television tube closely), so that odd numbered pixels are one color, even numbered are another, and other combinations produce other colors still. Some computers have artifacting for their only source of color, specifically the 8-bit Apple computers (Apple II, II+, IIe, IIC). The Atari doesn't have to use it, but it's a nice feature anyway.

```
10 GRAPHICS 24:COLOR 1:POKE 710,0:POKE
 709,12:FOR T=0 TO 319 STEP 3:PLOT 319-
 T,191:DRAWTO T,0:NEXT T
20 FOR T=0 TO 191 STEP 4:PLOT 0,191-T:
 DRAWTO 319,T:NEXT T:FOR T=160 TO 319 S
 TEP 3:G=G+1.76:COLOR 0:PLOT T,96-G
30 DRAWTO T,96+G:PLOT 319-T,96+G:DRAWT
 0 319-T,96-G:NEXT T:COLOR 1:FOR T=65 T
 0 127:PLOT 125,T:DRAWTO 195,T:NEXT T
```

```
40 COLOR 0:FOR T=125 TO 195 STEP 5:PLD
T 160,127:DRAWTO T,65:PLOT 160,65:DRAW
TO T,127:NEXT T
50 GOTO 50
```

BRASS

This is the shortest program this month; a mere three lines. It is a very recognizable public domain program released by Atari to demonstrate the GTIA chip. While not claiming to do dozens of colors on screen at once, it does show how shading can make a picture look extremely realistic.

```
10 GRAPHICS 9:POKE 712,32:FOR Y=55 TO
0 STEP -10:FOR X=0 TO 24:C=X:Z=Y+X:IF
X>11 THEN C=24-X
20 D=INT(SQR(144-(X-12)*(X-12)))/2:COL
OR 15-C:PLOT Z,Y+7-D:DRAWTO Z,Y+7+D:CO
LOR C+X/12+1:DRAWTO Z,180-Y+D
30 NEXT X:NEXT Y:FOR X=1 TO 2 STEP 0:N
EXT X
```

LINECOLR

Finally, the most complex program this month. LINECOLR generates colors on the screen by the most common method; display list interrupts. This complex technique is well documented elsewhere so I won't even try to explain it here.

LINECOLR will set up a display list interrupt on every line of the screen to change the color of the screen. If you type in the program as it is below, you'll simply get an all text screen with every line a different color. If you replace line 60 with a series of DATA statements the lines will change to the color of those numbers! You can individually control the color of every line. Note that the top line can't be changed by any data statement: it has to be changed using the normal SETCOLOR 2,X,Y or POKE 710,Z.

But that's not all. LINECOLR works with every color register in almost every graphics mode. See the 24 sitting conspicuously as the first data number in line 50? This number controls the color register. It should range from 22 to 26 for color registers 0-3, and can even go 18, 19, 20, or 21 for the player/missile graphic colors. To control the color of lines in another graphics mode, do a BASIC graphics call followed by a USer call, like this:

```
GRAPHICS x:JUNK=USR(1536)
```

Replace the "x" with any valid graphics mode number except 8, 9, 10, 11, 14 or 15 (which have too high a resolution to work effectively). You'll have to experiment with this program to get the hang of it, but it is well worth the effort!

```
10 FOR A=1536 TO 1640:READ B:POKE A,B:
NEXT A:TRAP 20:FOR A=1641 TO 1792:READ
B:POKE A,B:NEXT A
```

```
20 DATA 104,173,48,2,133,212,173,49,2,
133,213,166,87,160,0,177,212,201,65,24
0,16,41,15,221,60,6,208,6,177,212
30 DATA 9,128,145,212,200,208,234,169,
84,141,0,2,169,6,141,1,2,169,192,141,1
4,212,169,6,170,160,76,76,92,228
40 DATA 2,6,7,8,9,10,11,13,1,1,1,1,4,5
,1,1,169,0,141,88,6,76,95,228,72,152,7
2,160,0,185,105,6,141,10,212,141
50 DATA 24,208,238,88,6,104,168,104,64
60 B=18:FOR A=1641 TO 1792:POKE A,B:B=B-
B+16:B=B-240*(B>255):NEXT A
70 A=USR(1536):? CHR$(125);"How's that
for color?":END
```

If you have any short BASIC program you'd like to see in this column, send it to Atari's Small Miracles / co Mark A. Brown / 7097 Game Lord Dr / Springfield, VA 22153. The programs, as usual, have to be less than ten lines long and if it's good enough your name will be put up in lights. Or at least in black and white. See you next month!

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Game Views

Roland Gabeler - NOVATAR

This month I will provide you with a few capsule reviews coupled with my usual liberal sprinkling of opinions on a group of games not normally reviewed in my column. The reason I don't usually review some of these games, is that they are generally considered to be "Adventure" games and since I am the "arcade" type, I have to admit to bias. My idea of an entertaining game is related (as noted in previous columns) to the amount of time I enjoy playing it, as opposed to the amount of my hard earned cash I had to pay for it. I do not enjoy games that require heavy cerebral efforts, nor lightning fast reflexes. Therefore, I guess I'm a lazy, middle-of-the-road type. An ideal type of game for me is exemplified in Lode Runner where the difficulty is not immediate, but rather gradual, allowing you to learn the game playing technique in the early screens before becoming more difficult. Then after one or more difficult screens, it gives you a break with less difficult screens, before becoming tougher. While certainly not perfect, this game will always be listed among the best.

I have hashed through the above opinions to provide you with some understanding of my disappointment with the following games. So if you disagree, these games might be better for your value than they were for mine.

Koronus Rift, by Lucasfilm Games for Epyx. This is an arcade/adventure game in which you are piloting a land-roving, tank-type crawler on a planet littered with the remains of weapons and systems of past civilizations. To complicate your exploration, the planet comes equipped with guardian saucers who attack you in their attempt to prevent you from looting the hulks in search of better systems for your use. You have to loot the hulks to get the weapons, shields, radars, power generators etc., needed to defeat the saucers so as to advance to more and more screens to ultimately destroy the base the saucers emerge from.

This game has some of the most beautiful graphics of any computer game I've seen. The animation of the figures and attention to detail are outstanding. The mechanics of this game are basically arcade, however to really be successful you must have some adventure skills to guess what is important to provide the formula of weapons and systems to survive more than a few screens. This leaves you in a guessing game of deciding which weapons (you may carry six) to keep, store (in an orbiting home ship) and which to throw away.

My problem with this game is the speed at which it becomes difficult, and the complexity of figuring out the formula needed to survive long enough to feel some accomplishment. The rules and storyline are quite complex and require re-reading with a resulting feeling of lingering bewilderment. The enemy saucers are sometimes easy to defeat, but mostly frustratingly difficult. The tank you are piloting can take several hits before you die, but

suffers from a poorly designed aiming system to repel the enemy. This limitation is deliberate, because the designers want you to search hulks to locate better shields, radar guided firing systems, and superior lasar canons. However, along with these new systems you must locate better power sources to generate the support. I found a bigger generator, only to find it was so heavy, it dramatically slowed me down and made me a sitting duck for the enemy. You see, the big generator not only slowed me down, but was of little value without the more powerful shields and lasars. There is no way to tell where to locate (in which hulks) these systems, except through trial and error. Meanwhile, the saucers continue to hound you and usually destroy you before you can solve the puzzle. To add insult to injury, your score is based only on the systems you gave up by disassembling them in the orbiter. So you usually die with little or no score, no matter how many of the enemy you destroyed.....ultimate frustration. Adventure gaming friends of mine are equally puzzled as this game is more guesswork/chance, than cerebral contemplation.

The Eidolon, by Lucasfilm Games for Epyx. This game is much more an animated adventure game than an arcade game, although there are times where fast reflexes are your only method of survival. The premise is your discovery of a weapon equipped time machine with which you venture forth to explore (beautifully) scrolling caves. To limit your adventure, several creatures attempt to attack you, draining you of your life sustaining power reserves or in the case of dragons, blowing away with fireballs. Your machine can sustain multiple hits to varying degrees, depending on which type attack you are enduring.

Again the graphics magicians at Lucas have employed fractal geometry in animation to smoothly scroll you through the caverns, and animate the creatures. The rules and storyline are the opposite of "Rift" in as much as they tell you very little other than the story. You are left to figure out the formula for survival on your own with few clues from the authors. The idea is that your machine is empowered with some "magic" powers you have to discover to win(?) the game and locate the machine's designer deep in the caves. I enjoyed this game's graphics, but again come away frustrated at trying to advance far enough through guesswork as to how to use weapons or magic to dispose of my enemys.

Alternate Reality, by Datasoft (R.I.P. 1985). This game has been promised for years before finally seeing the light of day on the local retailer's shelves. The graphic screens, highly detailed computer "paintings" have been in the pages of magazines long before the program was bought by Datasoft and published and distributed. This is an animated (somewhat) graphic adventure in which you are stranded on another planet similar to earth from which you wish to escape (back to earth). You must gain some strong attributes and wealth to survive. However, as far as I can determine you can never win the game, because this is the first part of several modules needed to be assembled to complete your escape, and the publisher, Datasoft, was reported to have gone out of business in December of 1985! In spite of the above limitations, I've enjoyed playing

this game, mainly because I can live long enough to explore the city before I die. An adventure gamer, someone who plays Wizardry or the Ultima series who's skills are easily transferred, will most likely survive much longer. I don't believe this game is as complex as one like the Ultima series, therefore it is easier for the non-adventurer to get into and enjoy. The music in this game adds another element of fun, especially when it encourages you to sing along as it plays the tune and highlights the words to sing. This occurs in the opening, during bar scenes, etc. and when you die. The game gets bad marks for the long loading time, the inability to save a character (and continue to play him) and the fact that when you die, you have to completely reboot and wait another eternity to reload the game. If you are not an adventure player, this might be a nice game to pick up on sale. If you are an adventurer, I think you will get your money's worth even at regular price, roughly \$30. I hope the author is able to find another publisher to complete this series.

Kennedy Approach, by Microprose. I try to be open minded in reviewing an author's efforts at creating entertainment, but this "game" stretches my resources to the maximum. First of all, unlike the above software, I did not purchase this game, but borrowed this from a friend who loves it. After reading the fairly complex, but not difficult, instructions, I fully understand the mission of the author to create a realtime simulation of the job of an air traffic controller in any of several airports. After playing(?) this game, I have to admit, the author seems to have done an outstanding job.....but why? I have had conversations with air Traffic controllers about the complexity of their nerve racking jobs, and can't for the life of me understand how anyone could work in that profession! I have an enormous amount of admiration (made greater by playing the game) for these public servants and their dedication to enormous constant stress in preserving order (and consequently preserving lives) in our nation's airports. But.....how can working so hard with simulated lives on a home computer be entertainment? You've got me. Like I said at the start of this review, my friend, Tom, who loaned me the game, loves to play it. I don't care for any game that is hard "work" to play, say nothing about nerve wracking stress.

Perhaps some of these adventure style games will be more favorably reviewed or at least some clues to advancing deeper into their mysteries will appear in other pages of CURRENT NOTES. I would willingly boot most of them up again if there was hope of advancing with less frustration or at least hope of a light at the end of the tunnel that is not a Southbound freight!

Games seem to still be pretty hard to find for the Atari systems. I sincerely hope companies like Electronic Arts and Activision will expand their Atari offerings.

If you wish to discuss these or other games, I may be reached on (703) 620-9142, and would be happy to talk to you. Enjoy computing...for the fun of it!

ATARI INTRODUCES FEATURE-PACKED VIDEO GAME AT CES; COMPANY SAYS MARKET IS "ALIVE AND WELL"

(Atari Press Release)

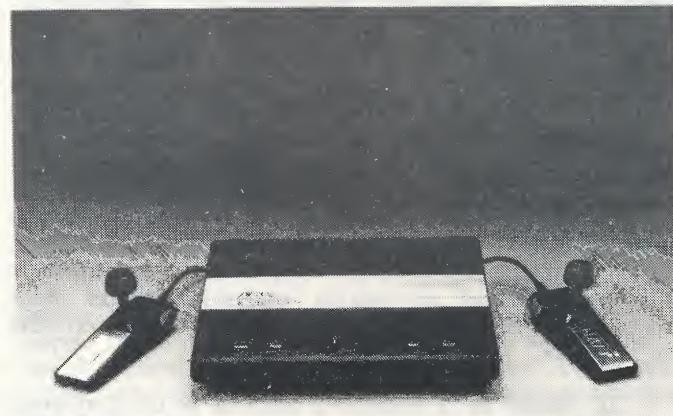
LAS VEGAS, January 9 -- In answer to strong, continued demand for video game entertainment, Atari Corporation is introducing the 7800 here, a high-end game with superior graphics, animation and sound effects. The company is also redesigning its popular 2600 video game.

"Some people have said the video game market is dormant, but Atari is proving that the opposite is true," said Michael V. Katz, Atari executive vice president and head of the company's entertainment electronics division. "Well over a million Atari 2600's were sold in 1985, convincing us that there is a strong demand for video game entertainment and a large trade-up market for the new 7800."

The 7800 offers dramatically enhanced sound and graphics for the sophisticated player. The machine's exceptional graphics are made possible by a component known as the "MARIA chip" that improves on-screen detail. This chip also makes the 7800 completely compatible with 2600 software. The extensive library of 2600 software will play on the 7800 WITHOUT an adaptor, and all controllers for the 2600 are usable, including joysticks, paddle controllers, track-balls and touch pads.

The 7800 is packaged with the POLE POSITION II cartridge, a state-of-the-art driving game. A range of arcade classics -- MS. PACMAN, GALAGA, CENTIPEDE, and others -- is being introduced for the 7800, and a variety of new software is being developed by Atari and leading independent developers. The 7800 will sell at major retail outlets nationwide for under \$80.

According to Mr. Katz, the revamped 2600 is now "smaller and cuter." The console is lighter, and new packaging features a carrying handle, indicating how easy it is to carry the 2600 from room to room, or house to house. More than 25 million 2600's have been sold since the mid-seventies, which qualifies it as the world's best-selling video game machine. The 2600 sells for under \$50.



CD Report

George Langworthy - CN

COMDEX - Las Vegas, NV
November 1985

The trade press generally agree that there wasn't much at Las Vegas this year. Not true!! The grand design of 500 megabytes read only storage for your personal computer moved from prototype to production. At 1984 COMDEX, Philips, Sony and Hitachi showed their engineering prototypes. Philips and Hitachi delivered small quantities, meaning under 10,000, during 1985.

Sony of Japan is the largest producer of compact digital audio discs (CD) in the world. The most significant announcement at COMDEX 1985 was Sony's. It announced early 1986, meaning January, delivery of a new production version. It will be in three forms: slide in 5 1/4" form factor for IBM PC's, and two free-standing units with Sony and SASI or SCSI interfaces.

Note: The sequence of events that must happen for a consumer to be able to buy most computer products is: one, manufacture; two, sale to OEM; three, production and integration of subsystem into product; and four, delivery of product to retail store. Just because a product is available doesn't mean it will sell. IBM's 4" hard shell floppy disc was abandoned after the Sony 3 1/2" standard became apparent.

During 1986 Sony, Philips, and Hitachi will ship drives in modest quantities (under 100,000) for all three. This seems extremely conservative to me. The "chicken and egg" problem is at work. The "software" -- a computer term for data published on a CD ROM -- suppliers are waiting for a significant number of CD drives to be in place. The CD drive manufacturers are waiting for software to be available so that end users will buy the drives. The software shortage appears to be ending, however.

The December, 1985 issue of CD DATA REPORT, a monthly industry newsletter published in McLean, VA, listed 55 data bases on or soon to be on CD ROM in these areas: agriculture, chemistry, demonstration, engineering, environment, financial, general reference, law, public policy, library, medicine, biology, military, space technology and personal computer software. The only two consumer products are 8,800 IBM PC public domain software programs and the Grolier encyclopedia. The others are several hundred to several thousand dollars per year.

CD DATA REPORT listed six CD ROM drive manufacturers: Denon, Hitachi, Philips, Sony, Panasonic, and Toshiba. At COMDEX, Hitachi showed a new compact version. Panasonic and Toshiba showed engineering evaluation models which would play both audio and CD ROM, which could be available in late 1986.

In answer to a reporter's question at the Sony press breakfast announcing the production drives, a Sony

representative stated that they may show in late 1986, 4th quarter, a combination audio, CD ROM and still picture or single frame video player for the consumer market.

Where does this leave the eager Atari ST owner? All indications and conversations with Atari officials, including those whose last name begins with "T", are that Atari will buy when the price is right. That means an OEM CD ROM player/drive purchased at a price so it can be sold for \$500-600. One unconfirmed rumor is that Atari wants to have a combo audio/CD ROM player/drive for its first product. 80-90% of the mechanical and electronic components are the same, so that is a logical "want." Unfortunately, no one has even announced a production model. Apparently, the noise filtration for a CD ROM drive is more complex because of the higher speeds and faster pickup travel.

Brian Kerr said that Atari policy was to announce products no more than two to four weeks in advance of their shipping date from Atari Sunnyvale to dealers and distributors. Extensive criticism of the older Jack Tramiel Commodore and Atari policy of vapor-hardware or lengthly delays from announcement until retail store availability are the reason for this much more conservative stance.

One of the frequent outside observer "reasons" given for the lack of CD ROM drives is that the manufacturers are selling all they can make of the audio players. This is true. The Japanese have always taken the long view of developing a market, rather than the USA short term profit one. Parts for CD ROM drives will be made available as needed. As demand and data formatting standards emerge during 1986, all mechanisms needed will be diverted to CD ROM products. After all, why not sell an OEM drive for \$300 rather than a complete Sony D-7 portable audio player for about \$125 ex factory. Most of the parts are identical.

CONSUMER ELECTRONICS SHOW
Las Vegas, NV, January, 1986

CD ROMs. Grolier announced January 17 delivery of a CD ROM drive and disc package for \$1,495 retail, to be sold through retail computer stores. Activenture, Pacific Grove, CA announced a Sony/Grolier disc package to be sold mail order only for \$995. Both of these are furnished with interface cards for the IBM PC. Activenture's is to be shipped about February 1.

That is all there was about CD ROM specifically at CES. Since the CD audio market development and products have a lot in common, I'm reporting on that area below.

Other CD Audio Products. 1986 CD audio player production worldwide will double that of 1985. In the USA, about 800,000 players were sold in 1985; 1986 sales are estimated to be 1.5 million. 17 million discs were sold in '85; double that in 1986 and the amount will still be short of the retail demand. Early estimates were that the new CD player owner would buy under 10 discs per year, with some as low as 3-4. Actual purchases are over 20, and that is constrained by lack of wanted titles.

Pioneer showed production models of the PD-M6(BK) -- what a strange model designation -- which is a \$499 list home CD player with a 6-disc cartridge. That would be 3.3 gigabytes of storage on line if used for read only memory. Sony showed a very well-mounted and protected 10 disc magazine car CD player. The console is about the size of an 8" slide rule and velcro's to the dash, with the mechanism in the car trunk.

Trade papers predicted that audio players would be \$99 retail by Christmas, 1986. Sanyo showed the lowest priced of half dozen CD player "boom boxes" at \$449.95. Even Taiwan producer Tatung showed a home player for \$299.

The CD audio and the 8mm Sony/Kodak format camcorders -- video camera and recorders -- at \$1,500 per pop seemed to be the only real lively CES product categories.

Atari at CES

As expected, Atari announced that the 520ST would be mass marketed and that the 1040 -- one megabyte -- ST would be shipped in January. All ST's will have TOS in ROM, RF video and composite video output, a word processor, two languages (BASIC and LOGO), NEONchrome and the VT52 terminal emulator.

The 1040 ST will have built-in double side double density drive and built in power supply. A new 14" color monitor, the SC1424 is to be ready 3/1/86 at a lower price, so that the color 520ST will list for \$799, the B&W at \$699 with the same accessories as present. The new 20-megabyte hard disk is also to ship within 4 weeks at a list price of \$800.

A "preannounced" product very much on the minds of Atari higher ups is the TT, a full 32-bit graphics processor or engine. The exact configuration is not clear to outsiders at this time (1/15/86). It will offer power and resolution comparable to that of the Sun, Appollo and perhaps even the DEC MicroVax II workstations at 20-30% of the price. This means a \$2,000 or less system with the performance of one costing \$10,000 or more today. When? My pure guess is sometime between Spring COMDEX to Fall COMDEX in November.

Importantly, Commodore didn't show again as at COMDEX. You guess why.

Author's speculation: The cost of production of the single unit 1040ST is no or very little higher than that of the multi-box 520ST. Therefore, it won't be long, probably before CES June 1986 in Chicago that the 520ST is shipped in the same one piece form as the 1040ST. This gives a much more businesslike appearance, and cuts down on desktop clutter. One reason for the external power supply on the C64 and Atari 520ST machines is that it makes production for different foreign markets easier for the computer/keyboard. However, the disadvantage is clutter.

The price reduction for the 520ST is very modest: down \$100 at list price for BW and color. It appears to me that the new Atari is doing it's best to penetrate the

mass market with a truly useful personal/home computer without disrupting the computer dealer relationships they have began to build up over the last six months.

Here's a thought for you computer dealers and trade press folks who are vocally concerned about the evil mass marketers such as K-Mart, Toys-R-Us, and Best catalog stores. Yes, they will sell the Atari 520ST at prices less than some dealers. Part of the lower retail price is due to the fact that they can purchase at the lowest price Atari offers. A senior Atari representative in response to a direct question said that there would be a structural channel price differential. If the volumes are the same for any dealer or dealer chain or group, they would buy at the same price as the mass merchandiser.

Very important question!!! Who is going to sell most of the 250+ titles that will be available in 1986 for the ST. Not the mass merchandiser that will carry some or all the Atari titles, and a few others for the home/personal market. If the customer wants to do anything sophisticated in the educational, business, productivity or game area, he will have to come to you, the full-line Atari dealer. Currently there are programs of \$250, \$495 or even more listed in the Atari and Analog third part catalogs. The BOS British accounting software is \$450 to \$550 per module and it takes several modules to build a useful package. Software at this price requires sales knowhow and some support.

Dealer, make a mutually profitable deal with your local mass merchandiser. Post a user's group name address and phone, so the new buyer can talk to an enthusiastic knowledgeable person, instead of a harried retail clerk. Maybe even persuade the department manager to hand out postcards or recommend that the new Atari buyer see you for software or accessories they don't stock. In conclusion I draw from Atari's decision to go "mass marketer" is that there will be more sales and profits for everyone, including the aggressive independent dealer.

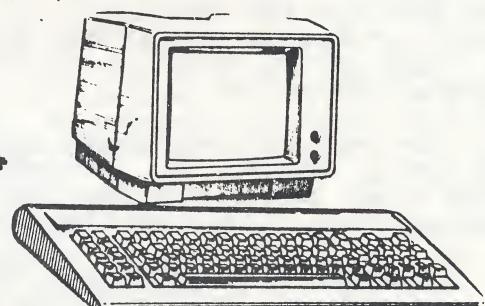
Near Letter Quality Print

The ST WORLD section in this month's issue of CURRENT NOTES (pages 26-33) was produced on a Panasonic 109 printer (essentially the same as a Panasonic 1091) using the compressed character font (17 characters/inch). The rest of this issue was produced with the NLQ LPRINT available locally from Printers Plus (\$339).

One of the distinguishing feature of the NLQ printer is the capability of printing near letter quality in Pica Elite, and Compressed modes (a trait shared with the Citizen printer). The page on the left was printed using the NLQ mode. This page is printed in standard compressed mode. As it turns out, the editors on examining identical pages in NLQ mode and standard compressed, decided that it would, indeed, be easier to read the text in standard rather than near letter quality. The two pages are shown here. You make a comparison for yourself.

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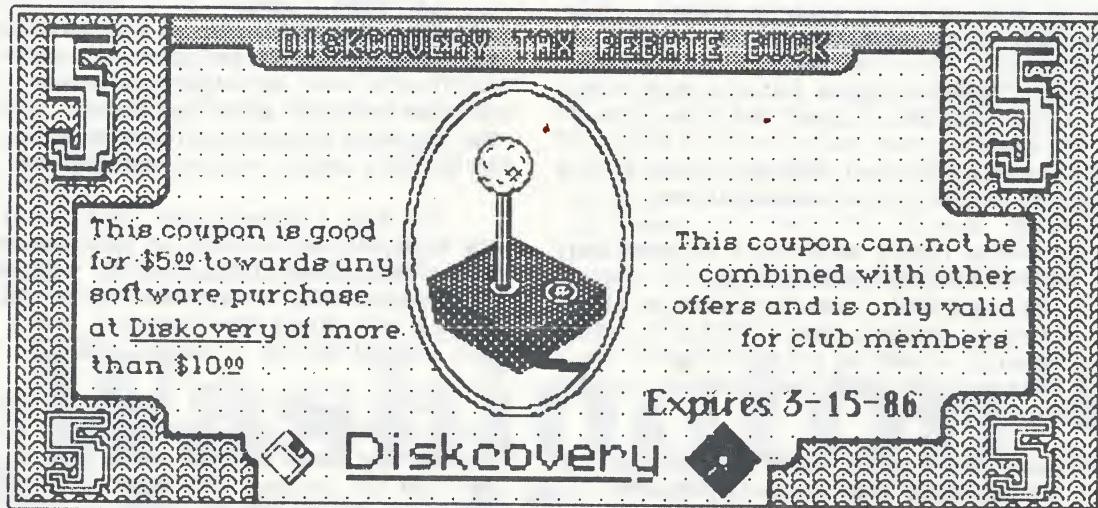
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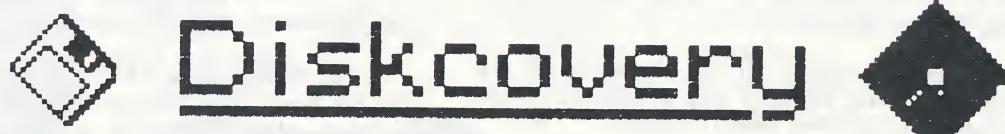
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Atari CES Announcements

Reprinted below are extracts from various press releases issued by Gail Snider and Pat Lamb of Richard Weiner, Inc. for Atari at the Consumer Electronics Show in Las Vegas. I am printing the items verbatim so you may draw your own conclusions.

ATARI Announces 1040ST: One Megabyte System for Under \$1,000

SUNNYVALE, CA, January 9 -- Atari Corporation is introducing the 1040ST, the first personal computer with one megabyte of memory from a leading manufacturer. The machine, available with a high-resolution monochrome (\$999.95) or color monitor (\$1,199.95), will be offered exclusively for distribution by computer dealers. Shipment of our 1040ST begins immediately.

The 1040ST is a business system featuring professional integrated design, with CPU, keyboard and disk drive all built-in. The computer comes complete with ST BASIC, 1ST WORD (a word processing program), NEOchrome paint program and VT52 terminal emulator for telecommunications.

A large, diverse library of software is immediately available, since all titles developed for the current 520ST run on the new 1040ST. Now there are over 150 ST programs, representing business, home productivity, education, word processing, accounting and entertainment applications. A minimum of 100 additional titles is expected in the first quarter of 1986.

In a related announcement, Atari will provide a 20 megabyte, 5 1/4 inch hard disk peripheral, the SHD-204, available next month. The add-on will deliver the increased power requirements for most professional applications.

Atari vice president/general manager Al Montross emphasized that he expects to increase distribution dramatically among computer dealers with the 1040ST. "The 1040ST is clearly a superb computer on its own merits, and its price makes it remarkable," said Mr. Montross. "We're certain more and more dealers will now perceive Atari as serious about the business market, and see the 1040ST as a valuable addition to their sales and profit mix."

Distinctive features of the 1040ST include its built-in double-sided, double density 3 1/2 inch disk drive and power supply. The computer's operating system (TOS) is in ROM, leaving the full RAM available for user applications.

Another important feature of the system is an elegant, professional 95-key keyboard with a separate cursor, 10 function keys and an 18-key numeric keypad.

The 1040ST has a built-in hard disk (DMA) port, facilitating the highest data transfer on the market. The machine also boasts a floppy disk interface for external 3 1/2-inch drive, a built-in RS-232 serial port for use with standard modems, and an industry standard parallel port

for connection to popular brand printers. A MIDI interface is resident for music applications.

The machine has a powerful graphics interface, utilizing the GEM standard. A mouse controller and desktop metaphor presentation deliver a level of comfort and ease-of-use not found on any other system for under \$1,000. The 1040ST offers a choice among a high-resolution monochrome monitor (640 by 400 pixels); medium-resolution color monitor (640 by 200 pixels), with a palette of 512 colors available; and RF video output provided by a built-in RF modulator.

Atari Expands 520ST Computer Distribution

LAS VEGAS, January 9 -- Atari Corporation, the fastest growing manufacturer of high performance computers, has announced here its most powerful computer to date, the 1040ST with over one megabyte of memory, for exclusive distribution to its authorized dealers. At the same time, the company will expand distribution of the current 520ST to include a broader range of merchandisers.

"To give consumers wider opportunities to purchase the high-performance 520ST, we will broaden distribution beyond computer specialty dealers," said Atari president Sam Tramiel. "Our strategy is that our authorized dealer network will always have exclusive resale rights to our most powerful machine -- now the 1040ST."

According to president Tramiel, the appearance of the 520ST at the mass market level will be aimed toward the consumer who wants to trade up to a 16-bit computer from an eight-bit system. The Atari 520ST offers the same power and capacity as the Commodore Amiga and the Apple Macintosh, but for less than half the price of each system.

Approximate retail price of the 520ST is under \$400. Atari will also offer complete bundled systems: the computer, with a 3.5-inch disk drive, mouse and black-and-white monitor is priced at under \$700. With a color monitor, the system will retail for under \$900. Purchasers will also receive four ST software packages free as a bonus, including two languages, NEOchrome and 1ST WORD, a word processing program.

Software Titles for Atari ST Burgeon in 1986

LAS VEGAS, January 9 -- In a strong show of support for the Atari 520ST computer from third-party software developers, Atari Corporation president Sam Tramiel has announced here that a minimum of 100 new commercial packages for the high-end 520ST will become available in the first quarter of the year. These are in addition to the 150 packages already in stores, programs representing a broad selection of productivity, utility and game titles.

"Programming for the ST is the fastest growing segment of the computer market," said president Tramiel. "Over 1,500 companies worldwide are doing serious work on the machine. That includes such industry leaders as Spinnaker, Sierra On-Line, Infocom, Stoneware, Batteries Included, Philon, Michtron and Activision in the fields of home productivity, business, education, entertainment and others."

According to Sierra On-Line president Ken Williams, "The 520ST clearly delivers the most machine for the dollar. We're a graphics and sound-oriented company, and the ST's strengths perfectly complement our niche in the home and small business markets."

Taking advantage of the computer's outstanding color graphics, Sierra On-Line's entire line of 3-D animated adventure games has been converted to the 520ST. KING'S QUEST I and II, and Walt Disney's THE BLACK CAULDRON comprise Sierra's 3-D offerings.

Spinnaker's chairman and CEO Bill Bowman said, "The 520ST represents a significant milestone in the home computer industry, delivering simplicity that consumers need at a price they can afford." The Spinnaker executive noted that his company is a longtime Atari supporter, having developed many existing programs for the 130XE as well as for the new 520ST.

Among the Spinnaker titles seen for the first time here are FAHRENHEIT 451, TREASURE ISLAND, PERRY MASON, NINE PRINCES OF AMBER, AMAZON (all of Spinnaker's Telarium

label); and HOMEWORK HELPER MATH under the Spinnaker label.

Michael Rothman, who heads up ST development at Spinnaker, added, "The 520ST is a great machine to program for, since GEM and TOS are so well thought out from a developer's perspective. It's easy to get great effects with little effort."

One of the original third-party software companies developing for Atari products, (including the XL and XE series, plus its videogame systems), Activision has titles already available for the 520ST. "As a company, we're very excited to be working on the ST, a 68000 microprocessor-based machine affording the speed, power and graphics capabilities that consumers can afford," said Kenneth Coleman, vice president of product development for Activision. "We have found Atari to be extremely responsive to our development needs, and the results will be unveiled at Winter CES."

Titles already available include HACKER, a computer adventure game by Steve Cartwright, plus BORROWED TIME, in which players prevent a murder -- their own. Three titles are planned for first quarter release.

"Some of the most respected names in the software business have chosen to develop for the Atari 520ST, which has proved itself with its advanced capabilities and appealing price," president Tramiel commented. "The result will be a large diverse consumer and business software library for the ST series."

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ST World**Joe Waters - NOVATARI**

Because there is so much coming out for the ST, ST World will become a section in CURRENT NOTES rather than just a column. Each month, all of the contributions dealing with the ST will be grouped together so readers may eagerly turn to this section or avoid it as their preferences warrant.

Random ST Items
by Frank Sonners

Electronic Arts response to the Compuserve rumour of mid-December that Commodore had defaulted on a contract payment and thus EA had terminated the association was simply that there was no substance to the Compuserve item. EA states that FINANCIAL COOKBOOK will be their first ST release, to appear this winter.

Area computer stores report that ST software is beginning to surpass available Atari 8-bit software, at least for competing shelf space. Their estimate of titles they now carry for the ST range from 100 plus at Woodbridge L & Y to over 50 at Gaithersburg ACA. Here are the newest and best selling items. Typesetter, the local product from Xlent that caused a stir among Atari 8-bit printing buffs. Brattacus, the interactive graphics adventure game by Psynopsis of England. Sun Dog: Frozen Legacy, the first science-fiction, fantasy adventure game to be demo'd for the ST has finally arrived with its complex, intricate graphics and plot line by Accolade Software. Hacker is now out there, along with Borrowed Time, the private detective adventure, and Mindshadow; all three by Activision. Mom and Me, the cartoon interactive, Macroassembler, and Kings Quest II, the animated, 3-D color adventure game, plus Pascal from OSS, due in the day this is written, complete the list of what has arrived since Comdex.

Hippopotamus Software acknowledges that their "thought processor" that outlines and organizes your ideas into finished memoranda and articles is in the beta phase and will released by the time you are reading this. An ST counterpart of Machintosh's excellent THINK-TANK, we would hope to review it as soon as it is available.

The ST is now being sold locally with a software bundle ranging from 5-8 programs. The primary items are STWRITER, NEOCHROME, BASIC, LOGO, 1ST WORD, and DBMASTER. The two word processors, two languages, and data base and art drawing programs comprise a package, we early purchasers would have drooled after.

ST World described in the December issue of Current Notes various ST programs displayed at Comdex. In addition to the above, the following can be bought locally: REGENT WORD and REGENT SPELL by Regent Software, ZOOMRACKS, the data base filing system that demonstrated demonic speed by Quickview, Michtron's UTILITIES, and

HIPPO SPELL. If projected release dates cited at Comdex, for numerous other intriguing programs are even close there should be a post-Xmas shower of worthwhile tilts to be had before Easter.

The Rumor Mill
by Joe Waters

The long-awaited ROM chips have arrived at Atari headquarters. They are being sent out first to developers and will soon be sent to distributors. The suggested retail price is \$25. The 20MB hard disk scheduled for release in February will retail for \$800. I understand Jack T. was able to find a supplier who would sell a HD for the price he wanted and one who had a HD with the quality he wanted. They weren't the same supplier and Atari is going with the better quality drive.

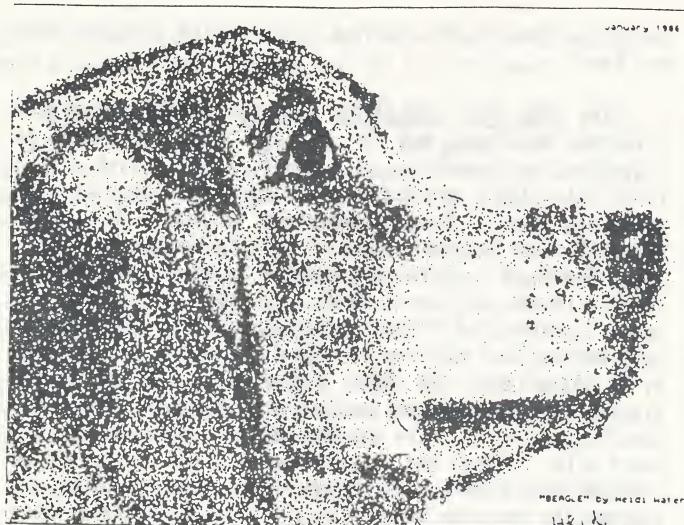
If you think the 1040ST, expanded distribution of the 520ST, TOS in ROM, composite video and RF output as well as RGB, and the appearance of a 20MB hard disk all portend well for Atari, wait till you hear what's coming in June!

The Magic Box. Look for a new peripheral that links up to your ST via the DMA port. It will contain 512K RAM, an 8088 chip, an 8087 math co-processor, and a port for a standard 5 1/4" IBM disk drive. It will be 100 percent MS-DOS compatible and 97% IBM compatible and run at the same speed as the standard IBM. And, when you are not pretending you have an IBM PC, that 512K RAM will be available as a raw disk for your 68000. The price for all this? Look for a list price of \$199.

The "Blitter Chip". This little gem will provide you with increased speed and graphics capabilities including sprite movement along with a math co-processor for the 68000. If you think the ST is fast now, wait till you install this chip. The speed of drawing lines will increase by a factor of 500! It will plug in beneath the current 68000 chip. The cost? \$100.

D.E.G.A.S.
by Joe Waters

As many of you know, Batteries Included has released D.E.G.A.S. -- Design & Entertainment Graphic Arts System -- by Tom Hudson. If you have a monochrome monitor, there is no question but that you should own this program. The "Persian Cat" shown below is only one example of the kind of artwork that can be produced on your monochrome system using DEGAS. (Of course, it helps to have some artistic talent.) You need not restrict your work to free-hand art. Want to sketch out a room layout, draw a circuit diagram, prepare an organization chart. You can do it all with DEGAS and then just dump your masterpiece to a printer.



Free-Hand Drawing Using DEGAS
on Monochrome Monitor

If you own a color monitor, you have a drawing program available with Atari's NEOCHROME. Why get DEGAS? For one thing, DEGAS allows you to draw in medium as well as low resolution. In other areas as well, DEGAS simply gives the artist more flexibility. You may easily draw boxes or circles of any size filled in or not as you like with any of a wide variety of varying fill patterns. Of course, if you don't like the lines or fill patterns available, you may design your own and save them to disk.

The text features are a particular strong point of DEGAS. A given font may be several different sizes and alternative fonts can be loaded and used. Text may be easily moved anywhere over the screen. The shadow effect (sorry, available only on color systems) allows you to choose not only the color of the shadow, but its distance and orientation from the original letters. All in all, you just can't go wrong by buying this program. I recommend it highly.

DB MASTER ONE

by Joe Waters

This program, by Stoneware, was one of the "free" programs recently offered as a Christmas promotion for the ST. It is a simple database program. Like most database programs, it allows you to store and retrieve information. For example, if you wanted to keep track of your checks, you could design a "record" that would contain data on the check number, date, amount, who it was written to, and, perhaps, a field for comments. DB MASTER ONE gives the user great flexibility in designing an input form. Call fields whatever you want, position them anywhere on the screen, use whatever character style and size you want to define the field. When you are ready to put in data, just enter the information you want in the appropriate fields. (Warning: if you have designed a file on the monochrome

system, you cannot read it from a color system or vice-versa.)

To look at the records you entered, use CNTRL-N (^N) to view the next record or ^B to go back one record. Narrowing down the field of selection (for example, show me only records with an amount > \$100.00) is well-integrated into the GEM environment and very easy to do.

Where DB MASTER fails is in its report-generating capabilities. If you are going to store information in a database, it is reasonable to expect that you may want to retrieve and print that information sometime. If you have no reason to provide a formatted report, DB MASTER might be just for you. However, if you want your reports to appear presentable, your hands will be tied with this program. For example, one of the four standard reports allowed by DB MASTER is a column report. Just select whatever fields you want to appear in the columns. That's easy enough. Want to sort by one field or another. No problem. Just point and click to indicate the first (of up to three possible) sort field. The sort is very fast and data may be sent to the screen, a disk drive, or to the printer. To generate your report, click on the "report" function, click on "print", select a report form, select a destination and your report is compiled instantly.

So where's the problem? Suppose you wanted a title for your report. Can't do that. Suppose you wanted to list names, area codes, and phone numbers. It would list them all right, but it would total the area codes. You see, you do not have to specify what kind of data you put in any one field. If you filled your area code field with numbers, DB MASTER thinks these are numbers so it just goes right ahead and total them. You have no choice on the total, it always appears whether you want it or not.

Suppose you want to print several fields that total, say, 110 characters. The screen is only 80 characters, but you have a wide carriage printer (or you can set the print into a compressed mode) so there should be no problem printing the report. But there is. DB MASTER won't print more than seventy some characters. If you choose too many fields, it just helps you out by truncating the fields to make sure everything fits. You can not choose what to truncate; DB MASTER chooses. The chance of getting a useful report out of such a scheme is almost nil.

Want to print all your data? You can't do it with the column method -- data is truncated. How about selecting an alternative report format called 'page'. With this format you select the fields you want and they appear on the output as field1=<data>, field2=<data>, etc. with one field per line. In this format, you can see all your data, but it takes one page per record. If you choose the 'record' format, the printer does a screen dump of the input screen layout. If you designed fancy characters for your input layout, that is precisely how the printed copy will look. Unfortunately, it still takes one page per record, only know it also takes an eternity to print a page.

If you have any serious database application, DB MASTER ONE simply can not do the job. For the utility that this program provides, the price of the program during the Christmas promotion was just about right.

Atari 520ST Disk Utilities Ravi Kulkarni and John Antoniades NOVATARI

The Atari ST comes with a basic set of utilities integrated into the desktop to copy files and disks, format disks, etc. However, if you have the basic single drive system, you will quickly find that it becomes quite inconvenient to do simple things like copy files and impossible to correct mistakes like accidentally deleting a file. To make some of these tasks easier and also provide additional capability to fix and learn about internal system functions, many companies have come out with a set of disk utilities. We review here the products by MichTron, Holmes & Duckworth, and Haba Systems.

All three programs provide the basic utilities to examine and modify disk sectors and to recover deleted files. All three also use the GEM interface with menus to provide a user friendly front end. The programs differ however in performance and in the number of features.

The MichTron DISK UTILITIES are nice in that they are integrated in one program. There is also an optional separate program to enable fast copying. MichTron seems to have adopted the policy of unbundling their software including their ramdisk and printer spooler. Taken together they are an attractive package. However, split apart they are less so. The disk utilities are nicely done. The disk sectors are displayed in both hex and ascii and the update is very quick in moving to different sectors. To modify a particular location one simply points with the mouse and types in the new value. The disk can be accessed by track/sector as well as by file. One can search through the file for a specific string. The file recovery is nice in that it displays the deleted files and gives you a choice of which to try and recover. There are a few bugs, namely if there is an error reading the disk it displays the old track/sector information while indicating that it is actually displaying the new track/sector. One missing feature is the inability to display and edit memory. This feature is helpful if you want to poke around and look at the ST's memory. The copy sector feature is available and is useful to create bootable double-sided disks.

The H&D UTILITIES are separate programs so if you want to do several things you have to exit and run a different program. One useful utility that it has is a directory print program so you can avoid screen dumps. The H&D programs have the basic features of the MichTron program plus a memory editor. However the screen update of different sectors is much slower than either the MichTron or Haba programs. Also one has to enter by hand the sector and track no. desired. The editing of the sectors is also inconvenient in that one can only edit in ascii or hex at one time. A plus point is that the menu allows a

hex/ascii dump of the current sector which MichTron does not have.

The HABA DISK UTILITIES are also nicely integrated like the MichTron, but it is copy protected which is ridiculous for something as commonly used as disk utilities. Also there are a few fatal bugs that can cause the system to hang. The documentation is online but is so painfully slow to peruse that it quickly becomes frustrating. The basic features are similar to the MichTron utilities with the additional feature of memory editing. The screen update of different sectors is fast, but one can only address the disk by the absolute sector no. and not by track/sector. The fatal bug is when you are merely viewing the disk and you perform some function that makes the program try to write out the sector. A dialog box appears with a cancel box, but the mouse arrow disappears so one can only continue to retry. Some plus features are the ability to save sectors to a file to be printed later or to merge with another file or disk. Also one can set the default drive whereas with MichTron or H&D one is stuck with the drive that you started out on.

All three programs provide useful features with the MichTron and Haba programs having a better user interface. However, when one compares these programs with those available for other computers such as the MAC or the IBM PC, the quality of the programs is a little disappointing. The IBM, for example, has a print formatter, memory and disk testing, ascii and hex dump, directory check for checking the integrity of the file system and so on. The user friendliness of the ST programs is without question superior. One can only hope that the second generation of utility programs provides the quality of features as well.

The Compulsive Copier for the 520ST Pete Jackson - NOVATARI

Doris, the cat, decided to use your original disk of that \$150 fancy spread sheet program to sharpen her claws. Your four-year-old wanted to see how much peanut butter a disk would hold, and that particular disk was the original graphic arts program you needed tonight for that presentation to the boss tomorrow. In a hurry to catch the falling lamp, you set your new wordprocessor disk on a hot radiator, and forgot about it until the next morning. Seasoned computer owners know whereof I speak. Enter COMPULSIVE COPIER by Compulsive Software.

One note before I begin this review. I will not debate the merits of copying disks or programs. That subject has been covered in numerous articles before. My only purpose in this article is to review the utility of the software.

The COMPULSIVE COPIER is simply put, a program to make archival backups to both commercially and privately produced microfloppy diskettes. Documentation is on the program disk and is to the point and not misleading. Ac-

curate documentation is something I have come to value, it shows detailed efforts on the part of the developer.

Operation of the program is simple. You are given one screen with several options. If you press return, the program will use the default parameters displayed. You may choose source and destination drives. This program works whether you have one drive, two drives or a hard disk. One to none copies of a disk may be made by selecting the copies option. You can also have the program read-verify writes by toggling the verify option. The level option tells the program how much effort to put into scanning the source disk. There are three levels of effort and the highest (level 3) takes the most amount of time. What is level 3? The author, John Grieggs, merely places two "HEH HEHs" as the answer.

As the copy process takes place, COMPULSIVE COPIER gives you a nice graphic display that keeps you occupied while the program is working. There are two "monitors" composed of two bars each. These monitor bars are analogous to the format bar when you format a disk with GEM. The format monitor depicts the progress of reading the disk format (top bar) and writing the format (bottom bar) on the destination disk. The data monitor does the same for reading and writing data from source to destination disk. At level 3, this process will take several minutes, so relax and enjoy the green bars moving across your monitor.

Does COMPULSIVE COPIER work? Yes, it does, and very well. Initially, you might not appreciate how long the program takes to do its job at levels 2 and 3. However, would you rather spend time looking for that key or original disk to get your work session going, or would you rather jump in and go to work? The dreaded alternative of waiting several days or weeks for a new copy of the lost or damaged disk may even cause thoughts of suicide in some individuals.

Compulsive Software gives you a second program with documentation as part of your purchase. The program is called BULKCOPY. If you are a new software developer for the 520ST and operating on a shoestring budget, BULKCOPY may be worth the price.

BULKCOPY allows you to mass-produce disks. It is a much scaled-down version of the COMPULSIVE COPIER. As the documentation says, this program will be more practical on a 1-meg ST since it will attempt to load the entire contents of one disk into memory. This feature allows repetitive production of disks by merely placing a destination disk in a drive and hitting one key. Re-reading of the source disk after one or several copies are made is not required. Also, BULKCOPY will only copy very lightly protected disks. To an Atari user group ST librarian this program may be worth far more than the \$35 purchase price of the whole package.

So what is the bottom line? If you can't seem to keep your original disks away from the family cat or out of the peanut butter or want to manufacture your own software, then COMPULSIVE COPIER is a worthwhile utility. You may now rest easier at night knowing that the archive copy

of your \$150 spread sheet is secure in the safe you buried thirty feet under-ground in your backyard. Additionally, Compulsive Software states in the documentation that upgrades to this program may be available to registered users. Happy STing.

FINAL WORD - THE ONE WE'VE BEEN WAITING FOR?

by Frank Sommers - CN

A three-piece-suit kind of word processor, that's what FINAL WORD is. In December we wondered if ST WRITER was the power-tool which we had been waiting for? Well, dress up and straighten up, FINAL WORD is here. Power galore! A sophisticated and flexible program. Complicated? Let's find out the price you pay to access and use it with ease, and over the longer period will it return you big enough dividends.

GETTING STARTED

(This is a whizzer!) Your little red and white bound 130-odd page tutorial (with a 338 page back-up manual in a ring binder) explains how to enter the tutorial. Paragraph 1 has you insert the FINAL WORD disk, and paragraph 2 has you press <Return> and look at the text on the screen.

But in between these two paras there's something missing, at least for the ST. What is missing is explained in a 4-page brochure inserted in the front of the documentation binder. It begins by urging you to copy, separately, the two disks that come with FINAL WORD, then "install" the four application programs, then select a printer type, via the printer configuration program. Once you exit the configuration program, the insert tells you, you are now ready to "have fun".

Don't believe it, about being ready for the tutorial and "having fun". You may still be several hours or even a day away from successfully loading your FINAL WORD, and beginning lesson #1. Loading FINAL WORD, you will find requires you to follow the dictates of the insert, exactly. Interestingly, once you have successfully loaded the program, you may conclude you must have done something wrong. No WP can require 10 separate steps, after preparing disks and installing applications, simply to load the program and leave you ready to write. And each time! And with two drives. Then, there it is on page 13 of the first lesson! The last line of the page says, "...it is the end of the day and you are ready to turn off your computer. You must first exit FINAL WORD." That's all it says. You must exit... Well, what it's not telling you until page 6 of lesson three, that if you just save your file and turn off the computer without going thru the "exit routine" (typing Ctrl x, then m, and then e), you will perish in the flames of hell trying to load FINAL WORD the next time in less than 10 frustration-ridden steps. "You must (the must is even italicized) first exit FINAL WORD." Three lessons later, in discussing the joys

of the Recover program (and there are joys) you discover that the "must" is because if you don't "exit" correctly, the swap program generates an error, and can't reload your program the next time you turn the power on.

The question arises, for us slow learners, couldn't they have included that critical bit of data in the 4-page insert for ST users (the program and documentation was originally written for the IBM PC) or highlighted it on page one step one? How many people like to get it up on the screen and play around, trying this and that before sinking into a deep chair and giving the tutorial its first reading? Well with FINAL WORD you do that at your peril, or only if you know (1) how to exit the "Unknown command" lock-up without turning off the machine and (2) how to load FINAL WORD again, in less than 10 steps. The two magic answers of course are: Ctrl Z to unlock the "Unknown" command and Ctrl x,m,e to execute the critical "exit".

Well into this review, I received a call from an ST user. She and her firm had just acquired a new ST and FINAL WORD two days earlier. Asked to master the word Processor, among numerous other assignments, her frustration soared to orbit levels when almost two days passed and she still had not been able to configure her Okidata printer and proceed with company business. The repeated crashes, as she attempted to fight her way into the program, only to be confronted by the "Unknown Command" with no economical retreat known, and the dreary prospect of the "10-step reload", caused her to shut down and forego the configuration challenge. Her call to this reviewer came only after she had tried for one afternoon and the next morning to raise the always-busy Mark of the Unicorn on the telephone. The problem was resolved when we, together, discovered she had not copied one of the files onto the "work disk" from the text/data disk, per instructions in that little memo that filled the gap between para 1 and para 2 of the tutorial. Thus we underline the need to read and follow the tutorial with care. (The question also remains, why the Mark of the Unicorn line was busy so long? Another individual using FINAL WORD to publish a newsletter, remarked that she also had difficulty reaching customer service at the firm.)

BIG TIME PROGRAM

What makes a program, capable of such torture to the beginner, worthy of consideration? The answer is excitement, the excitement for anyone who has never used anything but an Atari word processor (WP), who has never before coaxed up to a dedicated "big timer". Once you land successfully in the tutorial, things begin to happen. Within a few pages you have used Ctrl-x (^-x) to bring up the main menu (which lists nine individual separate menus). You have typed "H" for help, and then "H" again to key into, "Help about what:", and after trying to get a response by typing "cursor", you discover the word is "move", and the screen springs to life with all of the cursor movement commands. A touch of any key, and pow! you're back into the edit/writing mode. Zing! goes the string on your electronic-heart, for this is heady stuff. You repeat the Ctrl-x, followed by two "h"'s and instead of "move" you type "delete", and there are all the delete commands.

Ctrl-x gives you access to 9 functions, and they each in turn take you on to all of their respective controls. By now, if you have logged some WP time in other programs, you decide to take off, leaving lesson #4 of the tutorial lying on the runway, or the floor, and off you soar. Leaping first from word to word with the cursor and then paragraph to paragraph, backward and forward, and then a delete or two, and you discover, just before you crash, that a Ctrl-Arrow followed by either the word, line or paragraph command, permits you to repeat that same command indefinitely by merely hitting Ctrl-A.

But crash you must. The bottom of the screen lights up on the right with "Unknown command". And your "first flight" is rudely over. Hit the keys, as you will, the engine is dead. Back you go to Mother Tutorial, to discover (1) that on the next page (had you read further) it explains how to escape death at the hand of the dreaded "Unknown command", a simple Ctrl-Z, and (2) that the suggestion that even the cogniscenti of the WP world will benefit by going lesson by lesson thru the tutorial is indeed a time saving truth. But if you remain stubborn, on your next trip without Mother Tutorial, inevitably there will be a pong!, and the traffic light on the right will blink on with, "Swap write error!"

CRASH PROOF

Now you have been told that FINAL WORD is word renown for being genuinely crash proof, meaning your program is never lost, even if the President's Star Wars fails, or the current goes off. You merely load up again (all 10 steps), and at about step 7 are told to run "Recover", which reconstitutes what was in the buffer before it went dead. How is this electric miracle possible? FINAL WORD's SWAP program which is about 40 k longer than FINAL WORD itself, re-saves whatever you are writing to disk after any 2-second break in key contact. (You may change this interval by "reconfiguring".) This makes it possible upon rebooting to rerun the lost file. A genuine, giant plus. It means, you have to work hard against man and nature to lose your text, or wipe the disk by mistake. However, as you wing along, you can suddenly be confronted, as we noted, with "Swap write error!" And a tap on Ctrl-Z still leaves you trapped at the light at the right, where the cursor blinks but does not budge.

So back to the little red and white know-it-all tutorial. It saves time. By now, for those of you who turn sprightly when you're writing on your computer, there is almost as much excitement at the prospect of what this piece of software might be capable of as you discovered in your first flight with Star Raiders. Almost, I say, almost.

But then you can't stand it anymore. You feel you've learned how to manage it, and want to take off on your own. If you hit trouble, a couple of Ctrl-Z's will undoubtedly save you. You load up and start typing. But two seconds after you pause in your typing, the squirrelly "Swap write error" hits. Why? No clew. Thus you mark your place in the tutorial and skip ahead to where it tells you everything you wanted to know about SWAP-ing but were afraid to ask. Eventually, you will find out your

disk was write protected (tab up) and SWAP was frustrated by not being able to update the disk.

Those of you, like myself, who had trouble with STWRITER's need to use the arrow block at the right of the keyboard to control the cursor, will smile with pleasure when you discover that "right arrow (Ctrl right arrow) is also "Ctrl w", and the cursor leaps forward a word at a time. So are all other cursor movement commands that use the arrows, e.g. "down arrow is also "l. This choice of arrows or keys is another example of the convient flex in this program, making it worth extra time to relearn commands, if you have mastered a different less powerful WP.

BUFFERS GALORE

Quite clearly, this isn't a little dingy of a word processor that you can leap into, untie it from the disk and sail off gaily across the screen, words flowing as you go. This is a full-rigged, big keel craft. To get it away from the dock takes some study and learning. But for the work you'll put in, there is keen satisfaction up ahead. Once you master the commands, a crinkle of a smile may curve your lips as you whip from one buffer to another, from a piece you're writing, to the Notes buffer, to jot down a few ideas, and then with a {C,x,b,p} swim right back to your text. There are a dozen buffers, which means you can manipulate, edit, and write to a dozen different sections of an article or even files. Coupled with the double window facility, you have unparalleled flexibility in composing.

Leaping around with the cursor control, para by para, or word by word in either direction, or whole sentences in a single gulp. Then the little delights, the "StringInsert" you laid down in your text, that prompts you to fill in a name or a date or a phrase when you come to formatting the text, which when used with the "Include" function can also be used to set up sophisticated form letter applications. This is a two-masted beauty of a program, which sails right out with you if you learn it, and sinks you in frustration, if you try to run with it before you've done your tutoring.

100 COMMANDS

The printing process highlights both the power and the ponderous manner of the program. There are two systems: one is the normal mode that prints out exactly what you have typed onto the screen. The other, the advanced printing mode, has 100 formatting commands which permits the literary architect to erect a house of words unique to his or her wishes. The commands for the most part are one or two words, plus a symbol, which once perused and used are rather easily remembered. Once you begin using this advanced mode then automatic numbering of section headings, construction of a table of contents, and formatting long quotations and verse become rather routine, along with list formatting and index compilation. Merely enumerating the features generates a sense of the strength of FINAL WORD. It affords a muscle that old Atari and new ST users face with some awe.

Minor and major flaws? Yes, there are a few. There is no double column printing; no support for the GEM operating system; and as amply documented, the setup procedures can be tedious. Should you elect to move forward or backward a paragraph or a sentence at a time, <^p or ^n>, if your travel takes you from one screen to the next, you likely will skip several sentences or paras and have to relocate yourself on the new screen. Occasionally, the letters fail to wrap around and you are left with an "o" at the end of the line and a lonely "r" at the beginning of the next. A "Fill paragraph" command will pleasingly realign the text, and leave you mildly enthralled at the wonder of it.

The program can be specially configured to any existing printer, but prepare to spend some time doing this if your machine is not one of the two dozen listed in the configuration program. Like the Macintosh program, MacWrite, this one also writes to disk before it prints; the combination of waiting for it to write and then format, prior to printing, can be tedious with a longer document, e.g. this article required 70 seconds to write to disk and format before the printer began to clatter. Balanced off against this, is an advanced print previewing facility which saves considerable time in printing and reprinting.

And yes, Virginia, there is a way to beat the cumbersome key disk protect system, which requires you to load your original disk as one of the steps in loading FINAL WORD. If you have two drives, almost a requirement for maximum utilization of this program, and one is double sided then FINAL WORD and the text you are working on can be loaded merely by turning on your ST and then double clicking on the program ikon. The trick is to format a disk with one of the backup copy programs in double sided format (Mishtron's utility disk advises you how to do this, and how to rewrite track 0, sector 1 so it will permit you to copy and boot load TOS). Once you have a TOS on this 3/4 of a meg disk, copy your "work" files to it per the insert, and make it your working disk. Then copy for backup FW's 1st disk, using Mishtron or Compulsive Copier, or Side Track. You are set. You have an exact copy of the key disk, #1 disk, and space on #2 to operate. Put #1 in one of your drives and #2 in your double sided drive. Bingo! You boot the ST and up pops the FW program ikon from your B drive on the screen; a click and the file you were working on flows onto the screen. Exciting? Rather more unbelievable to those of us who have tried to use FINAL WORD, starting out cold.

So, in this age of "The Bottom Line", what have we in FINAL WORD? For the desk-top publisher not much. The power is paralyzed by lack of flexibility in the number of columns you can print. For the professional author, for the person who wishes to do newsletters in single columns, for long articles, for the person who writes or aspires to write books, we have a piece of software that outperforms most, if not all others thus far available for the ST. But alas, for the daily theme, the school composition, letters and shorter pieces, the investment in time and money will, for most, be unwarranted. FINAL WORD is a WP in a class with ocean liners, and thus not for crossing the Potomac.

SpartaDOS Construction Set

Reviewed by Cecil Alton - WACUG

SpartaDOS (by ICD, Inc.), meaning "power" DOS, is aptly named. Version 2.3 for the Atari XL/XE 8-bit line is the most powerful DOS I have ever used on the Atari and is the most exciting new product I have used since BASIC.

The SpartaDOS Construction Set comes with two disks, version 1.1 and version 2.3, and a well written user's manual. The only criticism I have about the user's manual is that there is no index. This is offset by a detailed Table of Contents. The bound manual has 20 chapters in which good examples abound and 9 appendices, including a glossary and a table of all SpartaDOS command processor (CP) commands.

Version 1.1 of SpartaDOS runs on the Atari 400/800 and requires a minimum of 24K bytes RAM. Version 2.3 runs on the Atari 800XL and 130XE. Version 1.1 does not directly handle Atari DOS 2.0 files at all (except to convert DOS 2.0 files to a SpartaDOS 1.1 format, and vice versa), and for this reason I don't particularly recommend SpartaDOS unless you plan to upgrade to an XL/XE computer.

Version 2.3, however, can read, write, and run Atari DOS 2.0 formatted diskettes in both single and true double density. Version 2.3 also provides lots of other extras - 14 new internal and 16 new external commands, a sophisticated user-friendly DOS command menu, and an additional 4K bytes of program area. It supports up to 8 drives.

Version 2.3 is 11K larger in size than version 1.1 and uses overlays beneath the OS ROMs in the XL/XE computers, so it won't work on 400/800 units. And there are two versions of 2.3. XD23C.DOS which recognizes the STARTUP.BAT batch file when booted and control is given to DOS (rather than the cartridge). XC23C.DOS is the same as XD23B.DOS except that AUTORUN.SYS is recognized when booted and control priority is given to the cartridge and STARTUP.BAT is not supported.

Both SpartaDOS versions support time and date stamping of files and give file sizes in bytes. Unused disk space is given in sectors.

Other advantages offered by this feature-loaded product include an Atari-logo binary file loader, support for up to 128 files, and Ultra Speed I/O, the latter available if you're using a 1050 drive modified with ICD's US Doubler double-density up-grade. Ultra Speed formatting with US Doubler enhanced drives optimizes the skew so that 3.5 sectors in single density and 3 sectors in double density can be read in one revolution. Normal double density drives can read only one sector per revolution, so this represents a 3X speed increase in I/O!

Highlights. The SpartaDOS user is greeted with the "D1:" prompt upon booting up. Type "CAR" and command is shifted to the BASIC cartridge. Type "DOS" and the "D1:" prompt appears in the flick of an eye. YES! SpartaDOS is RAM resident! The RAM resident portion of SpartaDOS provides immediate access to all internal commands.

Table 1: Internal Commands

?DIR (show DIRectory path)	ERASE
AINIT (Atari DOS 2.0 INITiate)	LOAD
APPEND	LOCK
BASIC (install or remove BASIC)	PAUSE
BOOT (BOOT a program at startup)	PRINT
CAR (exit from DOS to CARtridge)	PROTECT
CHKDSK (CHeck DiSK info)	RENAME
COPY	RUN
CREDIR (CREate subDIRectory)	SAVE
CWD (Change Working Directory)	TYPE
DELDIR (DEL empty subDIRectory)	UNLOCK
DIR (DIRectory)	UNPROTECT
DIRS (Short DIRectory)	VERIFY
MEM (display MEMLO and MEMHI)	
XDIV (disable batch processing & the PRINT command)	

Table 2: External Commands

AT RS232	boot RS232 handler for ATR8000
CHTD	CHange file's Time and Date stamp
CHVOL	CHange VOLume name
DIS.BAT	DISable BATch processing
DUMP	display file in HEX and ATASCII or ASCII format
DUPDSK	DUPlicate DiSK
FORMAT	format version 1.1 disks
INIT	INITiate version 1.1 disks
KEY	install 32 character KEYboard buffer on non-XL/XE computers
MDUMP	display Memory DUMP
MEMLO	display MEMLO bounds
MENU	see below
OFF LOAD	OFFset file LOAD
PORT	set parameters for RS232 communications
PUTRUN	make command files into 'load and run' files for running under Atari DOS 2.0
RD130	RamDisk 130XE
RDAXLDN	RamDisk AXLDN
RDBASIC	RamDisk BASIC
RPM	display disk drive RPM
RS232	boot RS232 handler for Atari 850
SET	SET time
SPCOPY	COPY files between SpartaDOS and/or Atari DOS 2.0 formats
TD	display Time and Date with optional R-TIME 8 clock/calendar cartridge
TIME	display time and date at top of screen
TREE	display directory paths
TSET	SET Time and date with R-TIME 8 cartridge
UNERASE	recover deleted files
XCOPY	similar to SPCOPY but intended for use with version 2.3
XINIT	INITiate version 2.3 diskettes
XKEY	install 32 character KEYboard buffer on XL/XE computers
XTD	load time and date with R-TIME 8 cartridge.

Internal commands are those which are directly accessible by the RAM resident command processor. For example, <DIR> (DIRectory) and <ERASE> (file erase). There are 28 internal commands in version 2.3. External commands are SpartaDOS commands which must be loaded from the system disk each time they are used. Examples are <FORMAT>

(format disk) and <CHVOL> (CHange VOLUME name). There are 32 external commands. Incredible! A DOS with 60 commands available! To describe each command would require duplicating the user's manual. A list of the internal and external commands, however, will convey a portent of SpartaDOS's power.

You may have noticed something peculiar in some of the filenames. Yes, "_" is a legal filename character as well as numbers "0..9". Thus, "4TH.B_F" is a legal filename.

RAM Disk SpartaDOS allows you to set-up a Ramdisk device. <RDBASIC> provides an 8K ramdisk for XL/XE computers usable while internal BASIC is installed. <RD130> sets up a 64K ramdisk on the 130XE (507 sectors). <RDAXLON> is used if you have Axlon's RAMPOWER 128 board installed in your 800. It sets up the board as a 112K ramdisk (only works with version 1.1).

Batch Files. Another nice feature supported by SpartaDOS is the batch file. A batch file contains executable DOS instructions (internal and external commands). It can be created with a word processing program or with the Screen Editor using the "COPY" command. The "TYPE" command is used to view the contents of the batch file. A batch file could be used to load an RS232 handler, go to the BASIC cartridge, and then RUN a communications program. When one realizes that there 60 SpartaDOS commands available, the possibilities for creating batch files becomes almost mind boggling. A batch file given the name STARTUP.BAT can be used to initialize things for a particular disk. The keystrokes to create a batch file for setting the time and date on drive 1 looks as follows:

```
COPY E: D:STARTUP.BAT
TIME
```

```
SET
```

```
<CTRL + 3> writes the file to the SpartaDOS disk.
```

To execute a batch file, type a dash (-) and the filename. It is not necessary to type the extension if it is ".BAT".

Subdirectories. The ability to create subdirectories is one of SpartaDOS' most important and useful features. Now, files can be grouped by type under a subdirectory. This can be a particularly useful feature since SpartaDOS allows up to 128 files per diskette, and it can be especially useful for organizing files on a system with a hard disk drive. There need be no more files scrolling off the screen when listing the directory. Using the LOGOMENU function, the OPTION key cycles the directories on the screen.

The create subdirectory command <CREDIR> is used to set up a subdirectory under a specific drive and directory. For example, "CREDIR D2:UTILITY" creates a subdirectory on drive 2 called "UTILITY". The command "CREDIR D2:UTILITY>DISK" sets up a subdirectory "DISK" under the pre-existing subdirectory, "UTILITY". The <CWD> command changes the current (working) directory and the <TREE> command displays all the directory paths found on the diskette or under the specified subdirectory.

LOGOMENU. LOGOMENU is used to create a special binary file loader. This is great for binary file games. LOGOMENU can handle up to 16 directories, each with up to 64 files (if you don't run out of disk space first!). Instructions in the user's manual are easy to follow.

DOS Menu Operation. This is another of the reasons I like SpartaDOS! The <MENU> command loads a menu utility which provides most of the features of the command processor, but in a menu form. It is capable of single and multiple file functions; e.g., 5 of 10 files on a drive 1 can be flagged for copying to drive 2 in one operation. The multiple file function can be performed with <COPY>, <ERASE>, <PROTECT>, etc. OPTION selects the next bank of commands and SELECT moves the cursor through the bank of commands. Pressing RETURN or START performs the selected function.

Atari DOS 2.0 Files. The only problem with SpartaDOS is working with Atari DOS 2.0 files. Version 1.1 only supports copying of Atari DOS 2.0 files. This is done with the SPCOPY command. Version 2.3 can read, write, copy, and execute Atari DOS 2.0 files. Migrating Atari DOS 2.0 files to SpartaDOS disk files can be a tedious process. Every "super" deal has its catch! On the bright side, version 2.3 has all the needed DOS 2.0 handlers required to achieve full functionality for most users. The <AINIT> command is used to write an Atari DOS 2.0 style format. Either the command processor, <XCOPY>, or the <COPY> function of the SpartaDOS menu is used for single or dual drive file transfers between SpartaDOS and/or Atari DOS 2.0 compatible formats (with few restrictions on density and number of tracks). Atari users accustomed to using disk utilities such as DISKEY may also be disappointed since the SpartaDOS format is not compatible with existing disk utilities (disk mapping, directory management and sector linking differs from standard DOS 2.0).

Summary. Overall, this is a fine product and I highly recommend it for XL/XE users. SpartaDOS costs about \$30, \$60 with the US Doubler. The increase in I/O speed by 300 percent alone makes this a worthwhile investment for those who own 1050 drives equipped with the US Doubler enhancement.

600XL Upgrade to 64K

Want to move your 600XL up to a full 64K Atari? John Baum of STS Computers called just before we went to press to say that he has just received a kit that will accomplish the upgrade. The cost is only \$29.95. If you don't want to install it yourself, you'll have to pay an additional \$10. So far, it seems to be working fine with everything program they've tested it on. For more info, call (703) 237-0558.

Time to Renew? Check your label. If the top line has an "8602", this is your last issue of CURRENT NOTES. Send your club renewals into the appropriate club officers. Subscribers send renewals to the Editor.

Turbocharged Telecomputing

by John Barnes - AURA

I recently brought my telecomputing capabilities out of the dark ages by installing a 1200 baud modem. This is not much by itself, but the complete package that I lashed together includes some extra features that are worth sharing with others.

Hardware. I connected an Avatex 1200 modem to port 1 on my Atari 850 interface. I chose this route because I can use the modem with any other terminal or computer that has a standard RS232 port. People who want a cheaper solution will have to wait for 1200 baud modems that connect directly to the SIO bus (these should be available soon), but I like the flexibility of the Avatex.

The Atari 850 interface is a trusty old warhorse in the 8-bit world. This is the one component in my system that is just as valuable as the day it was bought, probably because it has so much unrealized potential.

My computer is a vintage Atari 800 with a 128 kbyte Axlon Ramdisk installed. The Atari 130XE offers most of the same capability at about 1/10 the price. My two floppy disk drives are Atari 810's but any drive(s) should do as long as you have a suitable DOS.

The ramdisk is important because it provides file storage that is much faster than the data transfer rate over the phone lines. This means that upload and download rates can more nearly approach the ideal on large transfers. The size of this buffer on the 800/Axlon combo is larger than that of 130XE, but this should not be too much of a problem.

Software. This is the hard part of configuring a system. The stuff that has to be booted up from a cold start usually does not provide for a graceful exit to DOS. The stuff written in BASIC takes a long time to load and 1200 baud capability seems difficult to obtain, although it should be possible if one uses machine language for dealing with the buffering of input and output.

The Disk Operating system is Atari 2.0S patched for the Axlon Ramdisk. I use two different codes because neither one provides a complete solution. My favorite is KERMIT, written in ACTION! by Jack Palevich. The other is CTERM20, an assembly language code by Scott Conway, which appears on AURA's disk #50 in binary load form. Both of these codes can be binary loaded and both of them are capable of 1200 baud. KERMIT is supposed to be able to do 9600 baud, but I would have to see that to believe it. Some day I will wire the system directly to a 9600 baud port on another machine and test it out. If this works it could open the door to smart scientific workstations for less than \$500 (with graphics!).

KERMIT. I found the KERMIT source code on a DECUS swap tape a while back. I brought it home, compiled it and ran it (at 300 baud on my Atari 830). When I installed my new modem it was easy to make a module to drive it by applying a couple of patches to the source module for driving a Hayes Smartmodem (a much pricier

item). The existence of beautifully written and designed source code in a structured language made this little piece of hacking a pleasure. This gave me a package with nice autodialing capabilities.

KERMIT in its present form does, however, lack some functions that I need. These include: (1) straight dump and capture for text files (for use with systems that do not have a KERMIT or XMODEM server), and (2) automatic redial which may not be such a good idea if you mistype the directory entry).

For those who do not know what KERMIT is, its heart is a file transfer protocol somewhat similar to XMODEM. Programs incorporating this protocol have been written to run on over a hundred machines covering the full range of mainframes and micros. All of this software is in the public domain and a great deal of very skilled, professional effort is put into maintaining it. You have to see it to believe it. If enough CURRENT NOTES readers are interested, I will see about putting more information up on one of the BBS's.

I have installed versions of KERMIT on LSI-11's and a VAX and they run beautifully with the one on my ATARI. I have seen people use the IBM PC version and I am sure that it will evolve into something quite nice. The ATARI version could use some of the features found in these other packages, but we would need an overlay capability, which I have not yet seen in an ATARI OS. The full featured KERMIT on an LSI-11 runs in something under 64 kb of RAM. It's not what you've got, it's how you use it.

The KERMIT environment on my system is completely open. I can go from the communications program to the editor, to DOS, and back to the phone line without rebooting the system. It is, however, desirable to disconnect from the host system before doing any of these things. This prevents any funny business with messages, etc. from sending the system off into limbo. I run with the ACTION! cartridge in place, but those who do not wish to do so can compile the program in a run-time version. The ACTION! cartridge gives me a pretty good screen editor for perusing text files that I have captured or downloaded. The ability to get to DOS allows complete freedom to do anything I want with my files.

KERMIT does have one quirk that many find annoying. There is no line wrap, so that text in columns 41-80 of a printout goes off the edge of the screen. You can scroll over to look at the text whenever you want, but this takes a little getting used to. CHAMELEON also has this "feature", and many people don't like it.

CTERM20. I use CTERM20 in situations where the capture, dump, and XMODEM capabilities are essential. I lose autodialing because I cannot patch the source code to support Avatex autodialing. I lose the ramdisk because the program will not run under the patched OS that I use for the Axlon board. Finally, I lose the open software environment because I cannot get back to DOS without rebooting from a cold start (after swapping disks).

It seems to me that CTERM20 must be tinkering with the operating system in ways that violate some of the rules of good programming practice.

For these reasons I find it most convenient to install CTERM20 as a self-booting program and do my text editing off line. TERM20 is a little awkward to use because you have to wait for your parameter list to scroll across the screen to check your settings. There are some other quirks that take a little getting used to, but many of these might be overcome if I had documentation (which did not come with the program on the library disk).

AMODEM71.BAS. Various hackers have scrambled AMODEM beyond all recognition. AURA disk #50 contains version 7.1 and I am told that versions 7.2 and/or 7.3 are floating around in the public domain somewhere. Some people recommend AMODEM as the standard for the WAACE user groups because it is so widely distributed. I could not get it to work, but I have not yet tried all of the combinations (switching out the ramdisk, etc.). I suspect that part of my problem is that the program does not send all of my ASCII control codes to the modem.

The program is in BASIC (loosely speaking). It is the most impenetrable code that I have ever seen. My simple-minded Epson printer dump choked on it, so I have to find something else before I can even list this code. Couple these factors with ASCII incompatibility and the result is such stupid software design as to require no further comment. Shame on the author(s?).

Those people who are able to use the code "as is" will find that they need to have BASIC on board, and this will make it difficult to access a decent screen editor. If the code fiddles enough stuff in the operating system you will have to use it in a closed environment anyway.

Once I Got Connected, I found that the state of telecomputing is much improved since my earlier attempts. BBS services seem to be more stable and to have more capacity. The users seem a little more mature, although the "DARTH VADER" and other macho fantasy handles are still around. The frustration of finding an open niche to make a connection is still there.

The increases in speed and dialing convenience that I got from my upgrade are, however, very satisfying. Transfers between my home machine and the one in my lab are a breeze and this alone is sufficient to justify the cost.

Much remains to be done before telecomputing fulfills its potential for satisfying the needs of the ordinary (read "frugal") user, but this is a subject for another article.

Future Directions. The hardware configuration that I am using is probably as good as it will get for a long while. I would probably have to go to a 16 (or 32) bit machine to get much more. My present scheme gives me enough capability that I can afford to wait a good long while for the price to come down. 80 column capability will be nice and perhaps print spooling as a detached process.

Software is, however, another matter. Immediate improvement is needed. I expect to use KERMIT as the base for extending my capabilities. Capture and dump functions should be easy enough to splice in. A couple of remote commands and an internal batch command file parser would also be valuable.

The 8-bit Atari community needs an XMODEM program developed in a compilable, structured, modular, fast, an understandable language. C and ACTION! are good possibilities. KERMIT may provide a skeleton for such development. Such a program would allow the kind of adaptability that I have always found necessary for communications work. One lesson I have learned is that standards rarely are and compatibility rarely is.

Many CURRENT NOTES readers will be aware of my fetish about open software architecture. This is particularly important for telecomputing because the user must often go from one task to another. Why should we have to use some dumb online editor to write out our Email responses or cull the verbiage that the service dumps at us?

Another thing we need is a poor man's bulletin board system for private exchanges of data. There is no need for electronic mail, announcements, or fancy password verification if you and a friend are just going to exchange a couple of files. You should be able to boot up a server program within a minute or two of a call from a friend saying he wants to send you something.

I would like to see a real VT102 emulator for the 8-bit Ataris. The existing products do not seem to process the escape sequences for using some of the more advanced attributes of the DEC terminals. These functions are very important when using some of the utilities on mainframes. These terminals, which have become a de facto industry standard, now cost less than \$1000, but they are not "smart". If only 2 percent of 1 or 2 million 8-bit Atari users wanted such software it would make a nice market for someone.

Tetronix emulation would provide a scientific workstation that would cost less than \$500, although this looks more like a job for the 520ST. Such a product, if properly marketed, could make enough of a splash in this area to let Jack Tramiel add some ice cream to his grocery list.

I hope that some of you will pick up these challenges. Be sure to put me on your list of beta testers. Try me on the ACA bulletin board if you want to bat some ideas around. Meanwhile, does anyone want to buy an Atari B30?

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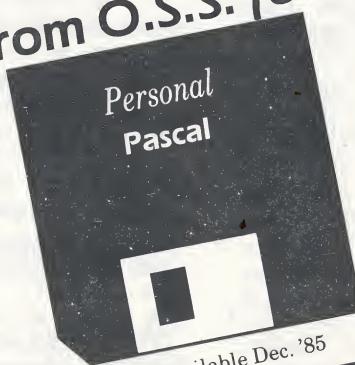
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WASHINGTON AREA ATARI COMPUTER ENTHUSIASTS

Atari Users' Regional Association

President..... John Barnes..... (301) 652-0667
 Vice President..... Bill Schadt..... (301) 622-1547
 Treasurer..... Richard Stoll..... (301) 946-8435
 Correspondence Sec. Marshall Abrams..... (301) 588-1005
 Membership Chairman. William Pimble..... (301) 341-9572
 Disk Librarian..... Rick Kellogg..... (301) 277-7536
 Hardware Coordinator Moe Sherman..... (301) 593-1076
 CURRENT NOTES Liason Rochelle Follender.... (301) 530-0243

Meetings: 1st Thursday of every month, 7:00 pm, (Library Activities), 7:30 pm (Program); Temple Israel Social Hall, 430 University Blvd. E., Langley Park, MD.

NOTE: New Meeting Site. AURA's meeting for February 6, March 6, and April 3 are to be held in Temple Israel's Social Hall, where we will have room for many more people. If it works out, we will continue to meet there. As usual, the meetings will start between 7:00 and 7:30, and end shortly after 9:00. Non-members are welcome to attend.

Temple Israel is located in Silver Spring, at 420 E. University Boulevard, between Colesville Road (Route 29) and Piney Branch Road (Route 320). It is on the left side of University Blvd., going from Colesville road to Piney Branch Road. Using the Beltway, use Exit 29B, go past the first traffic light (Franklin Avenue) and after about 1/2 mile make a left turn off University Blvd., directly into the Temple Israel grounds. Drive around the building to the front, but look out for the speed bump in the back. There is plenty of parking space. There are two buildings connected by a walkway. Go into the building on the left. The Social Hall is immediately on the left. Call Richard Stoll at 946-8435, if there are any questions about the meeting place and how to get there.

New Members: Dues are \$15/year (includes subscription to CURRENT NOTES). Mail check, payable to AURA, to Treasurer, AURA, P.O. Box 7761, Silver Spring, MD 20907.

Treasurer's Report. Richard Stoll reported that our current bank balance is approximately \$3000.

Membership Report. Bill Pimble reported that 88 members had already renewed. Please make sure that your renewal date on your CURRENT NOTES address sticker is correct. AURA is changing to a rolling membership date in order to avoid the problems associated with prorated membership fees. The expiration date for new memberships will be based on receiving 10 issues of CURRENT NOTES.

Vice-President's Report. Bill Schadt awarded Rick Kellogg a special prize for dragging him to a NOVATARI meeting on the wrong Sunday. Monte Haley was presented with a reprint on statistics for his criticism of an arcane statistical test on a new library disk.

A special project is underway to provide a course for beginning Atari (8 bit) users. The course will last the whole of a Saturday and will take place at Georgetown University. The syllabus for the course is currently

under development. Date and time will be announced as soon as they are available. Any interested person is cordially invited.

Consumer's Corner. Tom Jarrell described his dissatisfaction with the manufacturer of the ?????????????? printer interface. The hardware chokes on certain graphics strings, the manufacturer is aware of the problem, but wants to charge \$35.00 for an upgrade. What a ripoff.

Disk Librarian. Rick Kellogg announced that we are up to Disc #63. Some exciting telecommunications material is expected soon and Rick demonstrated MACHDOS, a fancy new DOS featuring "smart density" selection and windowing for directory and menu display.

Product Reviews. Bill Fry announced a new initiative to develop a central reference source for product reviews.

===== SPECIAL PRIZE DRAWING =====
 In order to get this project started we will hold a drawing for one or more prizes. Your entry for the drawing is a signed review of one of your favorite software products. The review should tell why you like the product. You may submit as many entries as you like as long as each one describes a different product. Critical reviews will be featured in the March drawing.
 ===== SPECIAL PRIZE DRAWING =====

Telecommunications. The Club is exploring various options for improved telecommunications. The ACA Bulletin Board has proven to be popular beyond our expectations and the access limitations prevent really serious software exchange.

Marshall Gets a Promotion. Marshall Abrams has taken on the task of moderator for the ATARI SIG on ARPANET. The job involves maintaining the files and regulating the mail service in this very large BBS. Good Luck Marshall.

ATARIFEST '86. AURA is working on setting up an ATARIFEST similar to the one that NOVATARI held in November. We are exploring sites and dates. We expect a firm announcement in the March CURRENT NOTES.

President's Remarks. AURA is starting 1986 in a sensational position. Placing the Library on a pay basis was a sound move because it got more people interested and the production of material is much more businesslike. We are starting to get quality material and improved documentation. Bill Schadt put an awful lot of work in on these matters in 1985 and he will use his Vice Presidential prerogatives to exercise oversight in 1986.

The formulation of a new slate of officers was relatively painless. Marshall Abrams deserves a vote of thanks for cultivating an environment in which people are willing to contribute. The organization has matured greatly since the days when Bruce McLendon and Bob Bell held it together with sheer sweat and tears.

There are many exciting new projects ahead, all designed to fulfill our goal of bringing along new users of the world's best personal computers.

ATARI's new products are generating a lot of excitement and AURA hopes to rise to the challenge of satisfying the new generation of users as new software and hardware become available. There are many opportunities for serious contributions to the advancement of these products.

The stirrings of area-wide interest in forming confederations of Users' Groups may be the beginning of vastly expanded productivity through sharing of resources and experience.

I am proud of AURA's role in supporting events like the COMPUTERFEST in Greenbelt and the ATARIFEST in Fairfax. These things would not have been possible without the help of a number of our members.

Our new meeting place is much larger than anything we have used before. If you have been staying away because of the overcrowding, come on back. We would like to hear from ATARI users in Baltimore, Annapolis, Columbia, and other faraway places. AURA can help you if you let us know what you need.

CPM: Capital Pro Micro-Users Group

President..... Bob Kelly..... (301) 839-6397
 VP-Finances..... Frank Jones..... (301) 593-1056
 VP-Communications... Mike Abramowitz..... (703) 983-2363
 VP-Program Affairs.. Joe Catterino..... (301) 757-1329
 Disk Library..... Joe Barbano..... (301) 464-0757
 Sysop/RBBS..... Frank Huband..... (703) 276-8342

Meetings: Capital Pro Micro-Users meetings are held at the Public Library in Oxon Hill, Maryland. The Library is located near the Woodrow Wilson Bridge just off the Washington beltway. From Virginia via the Woodrow Wilson Bridge, stay on the beltway to Maryland exit #4 West (St. Barnabas Road). St. Barnabas Road merges with Oxon Hill Rd. (right turn at end of exit ramp); proceed 1/4 mile; Library is on your left. The meetings are held each month in the MEETING ROOM. The Library telephone number is 301-839-2400.

New Members: Dues are \$15/year (includes a subscription to CURRENT NOTES) or \$3/year (no subscription). Send check, payable to Reg Brown, to Reg Brown, 9325 Bent Ridge, Potomac, Maryland 20854.

February Meeting: The next meeting is scheduled for February 24, 1986 at 6:30 p.m. Note this is not the fourth Tuesday of the month, but rather the fourth Monday. The change was necessary due to a schedule conflict at the library. Also, CPM meetings are now held in larger quarters, the MEETING ROOM within the library.

At the January meeting, Frank Jones and Reg Brown demonstrated several different spreadsheets available for CP/M and Atari users. The scope of operations (power) and the complexity of the various spreadsheets is generally not recognized by many users.

Incidentally, the February meeting will concentrate upon a number of new software programs available for the Atari 520ST. Hopefully, at the March meeting we will be able to demonstrate the new one (1) Megabyte ST just announced by Atari.

Membership Dues: If you have not paid, member dues (\$3) for 1986 and the subscription fee (\$12) to CURRENT NOTES are past due. Deduct \$1.00 for every month you are late in subscribing to CURRENT NOTES. Please ease the Treasurer's time requirements by submitting your payments ASAP. Remember, it is a voluntary position and that we have a new Treasurer. Mail your \$15 to: Frank Jones, 416 Hillsboro Drive, Silver Spring, Md. - 20902.

ANALOG Subscriptions. Those of you who subscribed to ANALOG through the club are reminded that it is time to renew. Remember that rates are lower via a club-sponsored subscription and that these subscriptions allow the club to receive the ANALOG monthly disk. If you are planning to renew, please contact Reg Brown (301) 340-7943 for CPM or Peter Kilcullen (202) 296-5700 for NCAUG before the end of the month.

Elections: The selection of candidates for new club officers is complete except for the President's position. The nominees approved at the January meeting were: Frank Jones as V.P. Finances, Joe Catterino - V.P. Program Affairs, Mike Abramowitz - V.P. Communications, and Joe Barbano as Disk Librarian.

Needless to say, all club members wish to express their appreciation to Bob Danson and Reg Brown for their time and effort in serving as club officers over the past year. They have earned a rest and our respect.

Finally, the election of the new President has been postponed for three months (April) to facilitate a smooth transition for the newly elected CPM officers.

Library Disks: The CPM library currently consists of 18 cp/m 2.2 disks and all ANALOG disks from issues #20 thru #38. Library and ANALOG disks are available for purchase at monthly meetings. The cost of each disk is \$3.00 plus \$1.50 shipping for each two (2) disks or fraction thereof ordered by mail. Please allow two weeks for processing mail orders. Mail orders should be addressed to: Mr. Joe Barbano, Disk Librarian, 3600 Earlston Court, Mitchellville, MD. 20716. Make checks for library disks payable to: Capital Pro Micro-users.

FACE: Frederick Atari Computer Enthusiasts

President..... Mike Kerwin..... (301) 845-4477
 Vice President..... Bill Austin..... (304) 263-1867
 Treasurer..... Buddy Smallwood..... (301) 432-6863
 Librarian..... Bob Martin..... (301) 848-7619
 Secretary..... John Maschmeier..... (301) 271-2470
 Sysop..... Sam Yu..... (301) 662-5586
 BBS..... (301) 694-8983

Meetings: Fourth Tuesday of each month, 7:00 PM to 9:30 PM, Walkersville High School, MD Route 194, one mile north of MD Route 26 (Liberty Road).

New Members: Dues are \$20/year per family; includes subscription to CURRENT NOTES. Send check, payable to FACE, to Buddy Smallwood, POB 300, Keedysville, MD 21756.

N.C.A.U.G.: National Capital Atari Users' Group

President.....	Frank Huband.....	(703) 527-4770
VP/Secretary.....	Peter Kilcullen.....	(202) 296-5700
Treasurer.....	Allen H. Lerman.....	(301) 460-0289
Membership.....	Gerald Whitmore.....	(301) 459-6164
Disk Librarian.....	Mike Pollak.....	(703) 788-7669
Tape Librarian.....	Bruce Ingalls.....	(703) 430-5287

Meetings. 3rd Tuesday of every month, 5:30-8:30, Room 543, National Science Foundation offices, 1800 G Street NW, Washington, DC. The closest subway stop is Farragut West, on the Blue and Orange lines. Take the 18th Street exit, and walk south (against the flow of traffic) down 18th Street for three blocks to G street. The building, on the corner of 18th and G, can be identified by a sign for the Madison National Bank on the corner. Parking is available in the building for a fee. The front entrance is on the west side of 18th street, between F and G.

New Members: Dues are \$15/year (includes subscription to CURRENT NOTES). Send checks, payable to National Capital Atari Users Group, to Allen Lerman, 14905 Waterway Drive, Rockville, MD 20853.

NOVATARI: Northern Virginia Atari Users Group

President.....	Joe Waters.....	(703) 450-4761
Vice President.....	Jim Stevenson.....	(703) 378-4093
Treasurer.....	Curtis Sandler.....	(703) 734-9533
Secretary.....	Georgia Weatherhead..	(703) 938-4829
Program Chairman....	Dave Meyer.....	(703) 455-7145
Public Domain Ed....	Gary Purinton.....	(703) 476-8391
Disk Librarian.....	M. Evan Brooks.....	(703) 354-4482
Novatari Prog. Exch.	Jim Stevenson.....	(703) 378-4093
Membership Chairman.	Earl Lilley.....	(703) 281-9017
Acquisitions.....	Palmer Pyle.....	(703) 354-4482
Publicity Chairman..	Terry White.....	(703) 849-1725
Education.....	Diana Burdt.....	(703) 425-5073
Sysop.....	Ted Bell.....	(703) 455-5312
BBS.....	ARMUDIC.....	(703) 569-8305

Meetings: 2nd Sunday of each month, 5:00-8:30, in the large and small Auditoriums at WASHINGTON GAS LIGHT, 6801 Industrial Road, Springfield, VA. From Northwest: take beltway (495) to east on Braddock (620) to south on Backlick (617). From Northeast: Shirley Highway (395) to West on Edsall Road (648) to south on Backlick. Take a

left at the light by Industrial Road. Washington Gas Light is the second building on the right. Informal gathering, library activities, demos 5:00-7:00, Telecom SIG (5:30-6:00), Beginner's SIG (6:00-7:00), Open Forum (7:00-7:30), Program 7:30-8:30.

New Members: Dues are \$15/year (includes subscription to CURRENT NOTES). Send checks, payable to NOVATARI, to Curtis Sandler, 7213 Idylwood Ct., Falls Church, VA 22043.

====> NOVATARI CHAPTERS <=====

Sterling Chapter. Meets from 7:30 to 10:00 PM in the Sterling Community Center Annex on the first Thursday of each month. Contact Palmer Pyle 437-3883.

Vienna Chapter. Meets from 7:30-8:45 PM in the Vienna Elementary School, Room 32 on the third Wednesday of each month. Contact Dave Heagy 281-9226.

Greenbriar Chapter. Meets from 7:30-9:30 at 4112 Majestic Lane, Greenbriar, VA on the fourth Wednesday of each month. Contact Jim Stevenson 378-4093.

Burke Chapter. Meets at 7:30-9:30 at the Oaks Community Center on the 3rd Sunday of each month. Contact Ray Cwalina 250-3856.

Reston Chapter. Now forming. Place and time of meeting to be announced. Contact Robert Zimman 476-5924.

Program Report. (by Dave Meyer) Our December meeting featured Ray Daly of Diskcovery (formerly The Program Store) of Falls Church, who gave us all the opportunity to complete our Christmas "wish lists" by showing us the very latest in 8-bit software. We also viewed a videotape of Atariwriter Plus as demonstrated by Jack Holtzhauer of WACUG.

The primary speaker at January's meeting was Nancy Beckman describing The Source and comparing and contrasting the services of The Source versus CompuServe. Nancy will be back with us in a few months when the Atari SIG for The Source becomes a reality.

Chris Amori from Applied Computer Associates of Gaithersburg will headline our February meeting. Chris will show us the latest in printers including our first look at the new Citizen printer rumored to be selling for under \$200.

NOVATARI Elections. Remember that our annual election for new officers will be held at the February meeting. Candidates: Ed Seward for President, Bob Zimman for Vice-President, Curt Sandler for Treasurer, and Georgia Weatherhead for Secretary.

Library Report. Gary Purinton has accepted the position of "Public Domain Editor." Gary's primary function will be to see that our library continues to grow with the addition of quality disks. Gary will coordinate the efforts of members working on getting together library disks and will be the NOVATARI contact with other club librarians in the area. M. Evan Brooks remains as our Disk Librarian. Evan is responsible for seeing that our library is restocked as needed and that library disks are

available at the main and chapter meetings and via mail orders.

Four new disks were added to the NOVATARI library in January. Below is a brief description of each disk:

The Membership/Library disk. This disk contains information on NOVATARI members including an alphabetical list of all members with phone numbers, lists of members by zip codes, and the "Hot Line" list. The library section contains information on the disks available in the NOVATARI Disk Library and a list of local BBS phone numbers. All information can be, via simple menu options, displayed on the screen or sent to the printer. The disk will be updated periodically.

Utility Disk No. 9: 256K Ram Upgrade for 800XL. This disk contains all the documentation and programs needed to upgrade your 800XL to 256K and have it compatible with the 130XE. Note: you will need additional hardware and some manual dexterity if you choose to undertake the upgrade yourself.

Games Disk No. 9: Text Adventures No. 2. Four new exciting text adventure games including Dr. Livingston, Titanic, Treasure Island, and Werewolf.

Demo Disk No. 1. Want to show off the capabilities of your Atari to your friends? Here is a compilation of some of the best available Atari demo programs. All are machine language and are knockouts! Includes Boink, Hollywood Medieval, Ball Songs 1 and 2, CES Demo (walking robot), and the Lucas Film demo.

Disks can be obtained (\$3.00) at any NOVATARI main or chapter meeting. Mail orders should be directed to M. Evan Brooks, 4008 Patricia Street, Annandale, VA 22003. Add \$1.00/3 disks to cover postage and handling.

Latest NPX Releases. (by Jim Stevenson) Over the holidays we have had three new NPX releases that I would like to describe briefly.

NPX #11 HITCHHIKER'S GUIDE TO THE GALAXY (COMPUTER BOOK) (\$5) J. M. Stevenson. This is not the famous adventure game, but excerpts from one person's rendition of the real HHGG (recall that the real HHGG was in a computer). It contains "explanations" for over 20 terms from HHGG reinforced with some graphics 7.5 images. This would probably appeal most to HHGG fanatics (pardon the redundancy).

NPX #12 UNICORN HORN (\$7) Michael McFarlane. This is a very well done non-violent arcade game for younger (and older) players. The object is to restore the colors of the rainbow stolen by the evil wizard, which, among other things, requires the player to overcome the fire-belching dragon. Colors, PM-graphics, and multi-banded scrolling are very pleasing. The player will experience minimal frustration, since he or she can make numerous mistakes without having the game end abruptly.

NPX #13 DRAW7 (\$8) David Beifeld. This is a fairly powerful graphics drawing and manipulation package for the intermediate user. The graphics functions include the usual line drawing features, the ability to use the zoom

mode for detail and replicate the zoom screen on the rest of the screen, and the ability to add text to the graph and zoom mode screens, to manipulate screen colors, and to mirror or duplicate a chosen half or quarter of the screen image. File functions allow the user to load and save screen files in Micropainter format, to use provided utilities to convert to Microillustrator format and back, and to dump screen files to Frowriter, Epson, and Centronics printers. Also the user can view screens in graphics modes 9, 10, and 11.

President's Report. As most of you know, I will shortly be retiring as NOVATARI president. I would like to thank each and every one of you for your generous support throughout the year and also for the going away gift presented at the January meeting. I have decided that, on reflection, I will use it to purchase something to go with my Atari system, such as a color monitor, which can serve as reminder of the good will and generosity of NOVATARIANS.

I have not quite accomplished all I wanted to as President, but we have made significant progress in many areas. Our meetings our, I believe, filled with a great variety of things and provide those attending with both information and entertainment. Our library, under the guiding hand of Evan Brooks, has grown from virtually nothing to a wide and growing collection of good quality programs that we can be proud of. We have initiated the NOVATARI Program Exchange under Jim Stevenson and provided a vehicle for local authors to present their work. Our BBS, thanks in large part to the untiring dedication of our SYSOPS, is one of the best in the area if not the country. (Of course, our newsletter is not too bad either.) The first Atarifest sponsored in this area proved to be a resounding success and just the first of many more to come. The creation of the Executive Board provides a great mechanism for continuing improvement and enhancement in club services. And, finally, the establishment of various SIGS and local chapters helps bring the benefits of NOVATARI to a wider selection of Atari owners. As the year ended, NOVATARI membership was reaching toward the 500 mark.

We have an excellent slate of candidates for the coming year. And, since the Executive Board consists of a large number of "appointed" positions as well as the elected officers, there will be ample experience available to insure a smooth and successful transition. I can assure all the membership that the club will be in excellent hands. I would like to extend my very best wishes and support to the new club officers and all our chairmen for another super year.

**S.M.A.U.G.: Southern Maryland
Atari Users' Group**

President..... Sam Schrinar..... (301) 843-7916
Secretary..... Dorothy Leonardi..... (301) 839-1363
Treasurer..... Bob Barnett..... (301) 934-2617
Disk Librarian..... Jim Sanner..... (301) 884-5840

Meetings: 7:30 PM on the second Thursday of each month at the John Hanson Middle School in Waldorf, MD. Take MD Route #5. Proceed about 1/2 mile East of the intersection of Route 301 and take first left past the Kinney shoe store to the school.

New Members: Dues are \$15/year, including a subscription to CURRENT NOTES. Mail check, payable to SMAUG, to Bob Barnett, P.O. Box 612, Waldorf, MD 20601.

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W.A.C.U.G.: Woodbridge Atari Computer Users Group
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President.....	Bill Parker.....	(703) 680-3041
First VP.....	Cecil Alton.....	(703) 670-4842
VP-Education.....	Bob Gaffney.....	(703) 590-3433
VP-Liaison.....	Tim Mitchell.....	(703) 221-7722
Secretary.....	Bill Alger.....	(703) 455-9565
Treasurer.....	Curt Pieritz.....	(703) 494-3704
Librarian.....	Arnie Turk.....	(703) 670-2547
Past President.....	Jack Holtzhauer.....	(703) 670-6475

Meetings: Monthly, 7-10 PM, usually on third Tuesday of the month, Community Room, Potomac Branch, Prince William County Library, Opitz Blvd., Woodbridge, VA. Exact dates: FEB 18, MAR 17 (3rd MON), APR 15, MAY 20, JUN 17. Entering Woodbridge from either North or South on Rt #1, proceed to the intersection of Rt #1 and Opitz Blvd. (adjacent to Woodbridge Lincoln-Mercury). Turn west on Opitz and take first left turn into the library's parking lot. The Community Room is located to your left immediately upon entering the main building.

New Members: Fee is \$10/year plus \$1 monthly dues; includes subscription to CURRENT NOTES for members in good standing. Send checks, payable to WACUG, to Bill Alger, 7792 Newington Woods Drive, Springfield, VA 22153.

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Many thanks to Jack Holtzhauer for his exhaustive compilation of CURRENT NOTES coverage in 1985. A limited number of back issues are still available (MAY, JUL, SEP, OCT, NOV, DEC). Back issues can be ordered for \$2.00/copy from CURRENT NOTES, 122 N. Johnson Rd., Sterling, VA 22170.

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WAACE February Meetings
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FEB	DAY	Organization
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6	THU	NV: Sterling Chapter
9	SUN	NOVATAR Main Meeting
12	WED	CN Articles Due
13	THU	SMAUG Main Meeting
15	SAT	CN Advertisements Due
16	SUN	NV: Burke Chapter
18	TUE	NCAUG Main Meeting
18	TUE	WACUG Main Meeting
19	WED	NV: Vienna Chapter
23	SUN	NV: ST SIG
24	MON	CPM Main Meeting
25	TUE	FACE Main Meeting
26	WED	NV: Greenbriar Chapter

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Classified Ads
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SALE: Atari 8-bit Soft/Hardware! Due to my crazy travelling schedule, I am forced to decide between which system of Atari's that I will keep. Since I can always get back into the lower-cost world of the 130XE, I will now be selling most, not all, of the vast collection of software AND hardware that I've bought since my first Atari 400 way back when... This includes ANTIC, ANALOG & COMPUTE! Mags, 1050 drives, the 130XE, a Commodore color monitor, etc... If you are interested, please call me at 703-560-7726. Or, send any inquiries to Terry White on ARMUDIC or Compuserve (70707,210). (I will definitely be keeping the 520ST stuff!!!!)

BOWLING LEAGUE SOFTWARE ... Secretaries! Complete package to keep track of weekly statistics & produce final sheet in minutes. Just \$29.95! FREE details & sample sheet: SCOTT SHECK, 9075 Centerway Road, Gaithersburg, MD 20879.

FOR SALE: ATARI 1025 Dot Matrix Printer, \$125. Used less than 2 months, in 'like new' condition. Evan Pancake, 2503 Woodhurst Rd., Charlottesville, VA 22901. Phone: (804) 971-7770.

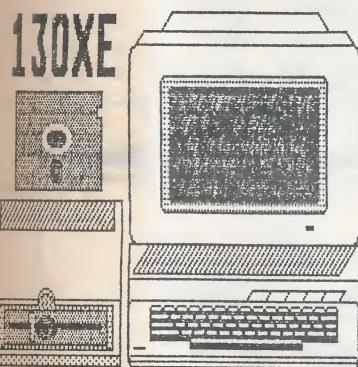
Will trade Atari 2600 game cartridges, Intellivision, ColecoVision, Atari 400/800 for Atari 2600 games. Especially want: Super Man, Out Law, Hangman, Fishing Derby, James Bond 007, Flash Gordon, Kanga Roo, Incredible Hulk, and River Raid. Please enclose SASE for list. (804) 572-8534. Miss Patty Wells, Rt. 4, Box 232, South Boston, VA.

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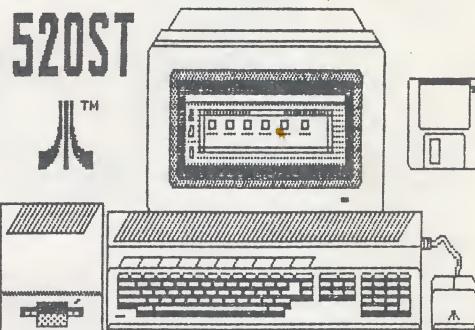


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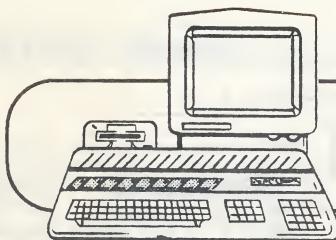
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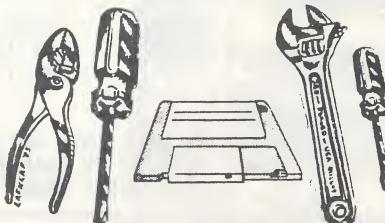
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UTILITIES from our computer toolbox

MICHTRON UTILITIES Utility by Timothy Purves

Change file contents, attributes, file and volume names, or any individual bytes on disk! Just type the new data or click on selector buttons. To restore deleted files or lost data, simply inspect the data and click on a button to save or reject it. You can also format individual disk tracks, and copy individual sectors to repair damaged disks! A new 10 sector format utility lets you add 80K of storage capacity to your disks!

For the Atari ST \$59.95



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M-Disk gives you the power of a super-fast, incredibly tough disk drive with-out the extra cost! *M-Disk* isn't a hardware device, but software utility. It makes a portion of your computer's memory resemble the data on a disk drive and makes the operating system recognize it as a hardware device, giving you the equivalent of an extra disk drive!

For the Atari ST \$39.95

MI-TERM Communications Utility by J. Weaver Jr.

Far beyond the simple functions of other terminal software, *Mi-Term* provides DFT, XMODEM, and ASCII file transfers, 300/1200/9600 baud support, printer echo, automatic capture, buffer, connect-time clock, automated logons and commands, and much more. With simple commands and the power of GEM, *Mi-Term* is as easy as "point and click".

For the Atari ST with modem \$49.95

SOFT SPOOL Printer Utility by Timothy Purves

When printing files, your computer is dead weight: waiting for the printer to finish the job. With *Soft Spool*, your computer can think and print at the same time! Instead of going to the printer, printed data waits in *Soft Spool's* RAM buffer. You can then use your computer normally as the spooler feeds its data to your printer between tasks.

For the Atari ST \$39.95

CALENDAR by J. Weaver Jr.

From almost anywhere in GEM, *Calendar* is ready to display calendars of any year and month and to store reminder messages for any date, any time: from 1980 to 2099. Set "alarms" on any or all messages. Alarms and hourly chimes appear even when *Calendar* isn't on the screen. Using *Calendar* is as easy as "point and click".

For the Atari ST \$29.95

MI-DUPE Copy Utility by Timothy Purves

Copying your data files can be slow and tedious. Some programs are even copy-protected to stop you from making any duplicate at all. *Mi-Dupe* makes files duplications faster, easier, and helps you obtain archive copies of "protected" software.

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BBS Bulletin Board System by Timothy Purves

MichTron presents a high quality Bulletin Board System for the ST. This many featured BBS has 16 special interest areas, supports XMODEM, DFT, and ASCII up- and downloading, bulletins, message base and much more. Call MichTron's BBS at (313)-332-5452 for a trial run.

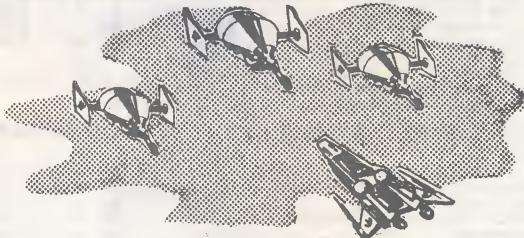
For the Atari ST \$49.95

GAMES from beyond imagination

TIME BANDIT Arcade Game by Bill Dunlevy & Harry Lofnear

Battle Evil Guardians as you collect the Treasures of Time. Two can play simultaneously, each with his own view! Each of 20 unique maps has over 15 levels and is a complete game in itself! Explore medieval dungeons, western frontiers, and future worlds all in one game. Full color graphics, unique creatures and 3D-style terrain for each Time, beautiful scrolling landscapes, detailed animation, thrilling sound, hundreds of screens: the conquest of Time and Space awaits you!

For the Atari ST with color monitor \$39.95



LANDS OF HAVOC Arcade Game by Microdeal

The dark power over the land is almost complete. The only hope lies in finding the hidden magic of the good sorcerer, High Vanish. As Sador, the reptile warrior with a human heart, you must free Haven from the Dark Lords. You have only your powerful body, your intelligence, and the secrets High Vanish left behind. 2,000 screens hold many surprises.

For the Atari ST with joystick \$19.95

FLIP SIDE Strategy Game by Ken Olson & Phil Hollyer

You'll flip over this Reversi-type game! Animated graphics bring the board to life as captured pieces flip themselves. Play against another person, or against the computer in one of six skill-levels: from novice to expert. The computer can show all available moves, or suggest one for you. You can switch sides with the computer, and even edit the board!

For the Atari ST \$39.95

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